



REGIONAL GROUNDWATER MONITORING REPORT WATER YEAR 2009-2010

Central and West Coast Basins
Los Angeles County, California

February 2011



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**REGIONAL GROUNDWATER MONITORING REPORT
CENTRAL AND WEST COAST BASINS
LOS ANGELES COUNTY, CALIFORNIA
WATER YEAR 2009-2010**

**Water Replenishment District of
Southern California
4040 Paramount Boulevard
Lakewood, California 90712**

(562) 921-5521

**Division 1
Division 2
Division 3
Division 4
Division 5**

**Willard H. Murray, Jr., Vice President
Robert Katherman, Secretary
Lillian Kawasaki, Director
Sergio Calderon, President
Albert Robles, Treasurer**

**Robb Whitaker
Ted Johnson**

**General Manager
Chief Hydrogeologist**

Prepared by:

**Tony Kirk
Mat Kelliher
Benny Chong
Peter Piestrzeniewicz
Jason Weeks
Phuong Ly**

**Hydrogeologist
Hydrogeologist
Associate Hydrogeologist
Assistant Hydrogeologist
Senior Engineer
Water Quality Specialist**

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Executive Summary

The Water Replenishment District of Southern California (WRD or the District) was formed in 1959 to manage the groundwater replenishment and groundwater quality activities for 4 million people in 43 cities that overlie the Central and West Coast Basins (CWCB) in southern Los Angeles County. These basins currently supply about 40 percent of the water used by the population in the region. Our mission is to protect and preserve high-quality groundwater in the basins through innovative, cost-effective, and environmentally sensitive management practices for the benefit of residents and businesses of the CWCB.

WRD has been monitoring the CWCB for over 50 years, and this year's annual report presents the most comprehensive information to date due to our growing network of aquifer-specific monitoring wells and in-depth water quality analysis. To that end, WRD has a dedicated Board and staff that engage in year-round activities to closely monitor groundwater conditions. The District performs extensive collection, analysis, and reporting of groundwater data to ensure proper resource management. The publication of this Regional Groundwater Monitoring Report (RGWMR) is one result of these efforts, which presents information on groundwater levels and groundwater quality for the previous water year which runs from October 1 through September 30 of each year. This current report is for water year 2009-10. Detailed information is presented in the body of the report with a summary below:

Groundwater Levels

Groundwater levels increased modestly over most of the Central Basin during water year 2009-10. Water levels increased up to 14 feet in the Cerritos area and in the unconfined Montebello Forebay area up to 11 feet. Water levels decreased up to 3 feet in the Lakewood area. Water levels were generally stable to slightly increasing for the coastal area of the West Coast Basin during water year 2009-10. Water levels increased in the Carson and Dominguez Gap areas of the West Coast Basin from 1 up to 5 feet and decreased in the Gardena area up to 6 feet.

Groundwater Quality

WRD has taken an active role in monitoring and protecting the groundwater and replenishment water quality in the CWCB. We have established the Regional Groundwater Monitoring Program which consists of a network of nearly 280 monitoring wells at over 50 locations throughout the District. WRD collects nearly 500 groundwater samples from these wells on an annual basis and analyzes them for over 100 water quality constituents to produce nearly 50,000 individual data points to help track the water quality in the basins. By analyzing and reviewing the results on a regular basis, any new or growing water quality concerns can be identified and managed effectively.

The results of this monitoring including data tables, water quality maps, and graphs of trends are presented in Chapter 3 of this report. Overall, the groundwater in the CWCB continues to be of high quality and suitable for potable and non-potable uses and continues to meet our high standards for quality. There are localized areas of marginal to poor water quality that may require treatment prior to use. The causes of these lesser quality areas can be from natural or human sources. WRD will continue to focus on these areas to monitor trends and look for ways to mitigate any contamination that makes the groundwater unsuitable for use.

Analysis for this report uses maps and trend graphs to focus on ten key water quality constituents including total dissolved solids (TDS), iron, manganese, nitrate, chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, total organic carbon, and perchlorate. TDS while elevated locally is not a widespread problem in the CWCB and is typically present along with chloride, an indicator of historic seawater intrusion. The most prevalent water quality issue in the CWCB is manganese, a naturally occurring contaminant. TCE and PCE also impact many wells in the District. WRD is currently investigating perchlorate, an emerging contaminant of concern. Other key constituents do not appear to be a water quality concern.

Upcoming Activities and Challenges Ahead

WRD remains committed to its statutory charge to protect and preserve the groundwater resources in the CWCB. To that end, WRD will be installing additional monitoring wells in the upcoming year to enhance its monitoring well network and will perform other projects and programs to meet this charge. One of the biggest challenges currently facing the District is the rising cost of imported water and the shortage of imported water for replenishment. The District has gone nearly 3 years with severely limited availability of imported water for the spreading grounds resulting in falling water levels. The District seeks to eliminate this reliance on imported water for replenishment and looks to expand its use of local sources including storm water and recycled water. We call this initiative our Water Independence Now (WIN) program – a program designed to ensure a reliable source of replenishment water to keep the groundwater basins useable and of high quality for all the groundwater users in the WRD service area.

WRD will continue to use the data generated by the RGWMP along with WRD's advanced GIS capabilities to address current and upcoming issues related to water quality and groundwater replenishment in the Central and West Coast Basins. WRD staff will be working on refining the hydrogeologic conceptual model of the CWCB using data from the RGWMP and other data to improve the framework for understanding the dynamics of the groundwater system and use as a planning tool. WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten CWCB groundwater resources and will continue to fund the Safe Drinking Water Program to address impacted groundwater. WRD will meet with other stakeholders and the Regional Water Quality Control Board to initiate development of a Salt / Nutrient Management Plan for the CWCB. WRD will continue to take the lead in working with the RWQCB and stakeholders to develop a Plan for the CWCB.

WRD will continue efforts under its Groundwater Contamination Prevention Program in order to minimize or eliminate threats to groundwater supplies. This includes continued organization of the Central and West Coast Basin Groundwater Contamination Forum

with key stakeholders including the Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, California Department of Public Health, United States Geological Survey, and various cities resulting in a list of high-priority contaminated groundwater sites within the District. Currently, the list includes approximately 47 sites across the CWCB.

Further information may be obtained at the WRD web site at <http://www.wrd.org>, or by calling WRD at (562) 921-5521. WRD welcomes any comments or suggestions to this Regional Groundwater Monitoring Report.

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GLOSSARY OF ACRONYMS

ASR	Aquifer Storage and Recovery
AWTF	Advanced Water Treatment Facility
AWWA	American Water Works Association
BGS	Below Ground Surface
CDPH	California Department of Public Health (formerly California Department of Health Services)
CSDLAC	County Sanitation Districts of Los Angeles County
CWCB	Central and West Coast Basins
DBMS	Database Management System
DTSC	California Department of Toxic Substances Control
DWR	State Department of Water Resources
EPA	U.S. Environmental Protection Agency
ESR	Engineering Survey and Report
GIS	Geographic Information System
GPS	Global Positioning System
LACDHS	Los Angeles County Department of Health Services
LACDPW	Los Angeles County Department of Public Works
LARWQCB	Los Angeles Regional Water Quality Control Board
MCL	Maximum Contaminant Level
mg/L	Milligrams per Liter
µg/L	Micrograms per Liter
MWD	Metropolitan Water District of Southern California
NDMA	N-Nitrosodimethylamine
NL	Notification Level
OEHHA	Office of Environmental Health Hazard Assessment
PCE	Perchloroethylene or Tetrachloroethylene
PHG	Public Health Goal
RGWMP	Regional Groundwater Monitoring Program
RL	Response Level
SAT	Soil Aquifer Treatment

GLOSSARY OF ACRONYMS (continued)

TCE	Trichloroethylene
TDS	Total Dissolved Solids
TITP	Terminal Island Treatment Plant
TOC	Total Organic Carbon
UCRM	Unregulated Chemicals Requiring Monitoring
USGS	United States Geological Survey
VOC	Volatile Organic Compounds
WBMWD	West Basin Municipal Water District
WIN	Water Independence Now
WRD	Water Replenishment District of Southern California
WRP	Water Reclamation Plant
WY	Water Year (October 1 – September 30)

SECTION 1

INTRODUCTION

The Water Replenishment District of Southern California (WRD or the District) manages groundwater replenishment and water quality activities for the Central and West Coast Basins (CWCB) in southern Los Angeles County (**Figure 1.1**). Our mission is to protect and preserve high-quality groundwater in the basins through innovative, cost-effective, and environmentally sensitive management practices for the benefit of residents and businesses of the CWCB.

As part of accomplishing this mission, WRD maintains a thorough and current understanding of groundwater conditions in the CWCB and strives to predict and prepare for future conditions. This is achieved through groundwater monitoring, modeling, and planning, which provide the necessary information to determine the “health” of the basins. This information in turn provides WRD, the pumpers in the District, other interested stakeholders, and the public with the knowledge necessary for responsible water resources planning and management.

1.1 BACKGROUND OF THE REGIONAL GROUNDWATER MONITORING PROGRAM

Since its formation in 1959, WRD has been actively involved in groundwater replenishment, water quality monitoring, contamination prevention, data management, and data publication. Historical over pumping of the CWCB caused overdraft, seawater intrusion and other groundwater management problems related to supply and quality. Adjudication of the basins in the early 1960s set a limit on allowable groundwater production in order to control the over pumping. Concurrent with adjudication, WRD was formed to address issues of groundwater recharge and groundwater quality. The Regional Groundwater Monitoring Program (RGWMP) is an important District program which tracks water levels and water quality in the CWCB to ensure the usability of this groundwater reservoir.

Prior to 1995, WRD relied heavily upon groundwater monitoring data collected, interpreted, and presented by other entities such as the Los Angeles County Department of Public Works (LACDPW), the California Department of Water Resources (DWR), and the private sector for understanding current basin conditions. However, these data were collected primarily from production wells, which are typically screened across multiple aquifers to maximize water inflow. The result is a mixing of the waters from the different aquifers connected by a single well casing, causing an averaging of water levels and water quality.

In order to obtain more accurate data for specific aquifers from which to infer localized water level and water quality conditions, depth-specific (nested) monitoring wells that tap discrete aquifer zones are necessary. **Figure 1.2** illustrates the capabilities of nested monitoring wells to assess individual aquifers compared to typical production wells.

Data are generally provided for a water year, which occurs from October 1 to the following September 30. During water year 1994-95, WRD and the United States Geological Survey (USGS) began a cooperative study to improve the understanding of the geohydrology and geochemistry of the CWCB. The study was documented in USGS Water Resources Investigations Report 03-4065, *Geohydrology, Geochemistry and Ground-Water Simulation-Optimization of the Central and West Coast Basins, Los Angeles County, California* (Reichard et al. 2003). This study was the nucleus of the Regional Groundwater Monitoring Program. In addition to compiling existing available data, this study recognized that the sampling of production wells did not adequately characterize the layered multiple aquifer systems of the CWCB. The study focused on new data collection through drilling and construction of nested groundwater monitoring wells and conducting depth-specific water quality sampling.

Figure 1.3 shows the locations of wells in the resultant WRD nested monitoring well network. Currently, WRD has nearly 280 wells at over 50 locations. A listing and construction details for the WRD wells are presented in **Table 1.1**. WRD and the USGS are currently expanding the nested monitoring well network. Three new wells are

scheduled to be completed in the next year, with an additional two wells scheduled through 2012. These wells will fill current data gap areas and address significant groundwater management issues.

An Annual Report on the Results of Water Quality Monitoring (Annual Report) was published by WRD each year for water years 1972-73 through 1994-95, and was based on a basinwide monitoring program outlined in the *Report on Program of Water Quality Monitoring* (Bookman-Edmonston Engineering, Inc., January 1973). The latter report recommended a substantial expansion of the then-existing program, particularly the development of a detailed and intensive program of monitoring the quality of groundwater in the Montebello Forebay. The Regional Groundwater Monitoring Program was designed to serve as an expanded, more representative basinwide monitoring program for the CWCB. This Regional Groundwater Monitoring Report is published in lieu of the previous *Annual Reports*.

1.2 CONCEPTUAL HYDROGEOLOGIC MODEL

As described above, the RGWMP changes the focus of groundwater monitoring efforts in the CWCB from production zones with averaged groundwater level and groundwater quality information, to a layered multiple aquifer system with individual zones of groundwater quality and groundwater levels. WRD views each aquifer as a significant component of the groundwater system and recognizes the importance of the interrelationships between water-bearing zones. The most accepted hydrogeologic description of the basin and the names of water-bearing zones were provided in California Department of Water Resources, *Bulletin No. 104: Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A – Ground Water Geology* (DWR, 1961). WRD generally follows the naming conventions of this report (Bulletin 104), redefining certain aspects when new data become available.

The locations of idealized geologic cross-sections AA' and BB' through the CWCB are shown on **Figure 1.3**. Cross-sections AA' and BB' are presented on **Figures 1.4** and **1.5**, respectively. These cross-sections are derived from cross-sections presented in

Bulletin 104 as well as recent data from the RGWMP, and illustrate a simplified aquifer system in the CWCB. The main potable production aquifers are shown, including the deeper Lynwood, Silverado, and Sunnyside aquifers of the lower Pleistocene San Pedro Formation. Other main shallower aquifers, which locally produce potable water, include the Gage and Gardena aquifers of the upper Pleistocene Lakewood Formation. Also shown on the geologic sections are the aquitards separating aquifers. Throughout this report the aquifers shown on the geologic sections are referred to as discrete groundwater zones. Many references are made to the Silverado aquifer which is typically the main producing aquifer in the CWCB. Substantial production can come from the Lynwood and Sunnyside aquifers as well.

1.3 GIS DEVELOPMENT AND IMPLEMENTATION

WRD uses a sophisticated Geographic Information System (GIS) as a tool for CWCB groundwater management. Much of the GIS was compiled during the WRD/USGS cooperative study. The GIS links spatially-related information (e.g., well locations, geologic features, cultural features, contaminated sites) to data on well production, water quality, water levels, and replenishment amounts. WRD uses the industry standard ArcGIS[®] software for data analysis and preparation of spatially-related information (maps and graphics tied to data). WRD utilizes Global Positioning System (GPS) technology to survey the locations of basinwide production wells, nested monitoring wells and other geographic features for use in the GIS database.

WRD is constantly updating the GIS with new data and newly-acquired archives of data acquired by staff or provided by pumpers and other agencies. The GIS is a primary tool for WRD and other water-related agencies to more accurately track current and past use of groundwater, track groundwater quality, and project future water demands, thus allowing improved management of the basins.

In early 2003, WRD completed the development of its Internet-based GIS, which was made available to the public for access to CWCB groundwater information. WRD's Internet-based GIS can be accessed through our GIS web site at <http://gis.wrd.org>. The

web site provides the public with access to much of the water level and water quality data contained in this report. The well information can be accessed through interactive map or text searches and the results can be displayed in both tabular and graphical formats.

1.4 SCOPE OF REPORT

This report updates information on groundwater conditions in the CWCB for water year 2009-10, and discusses the status of the RGWMP. Section 1 provides an overview of WRD and its RGWMP. Section 2 discusses groundwater levels for water year 2009-10. Section 3 presents water quality data for the WRD nested monitoring wells, basinwide production wells, and replenishment water. Section 4 summarizes the findings of this report. Section 5 describes future regional groundwater monitoring activities. Section 6 lists the references used in this report. Tables and figures are presented at the end of the report. This report can be viewed online and can be downloaded in PDF format from the WRD web site at www.wrd.org.

SECTION 2

GROUNDWATER LEVELS

Groundwater levels are an indication of the amount of groundwater in the basins. They reveal areas of recharge and discharge from the basins. They suggest which way the groundwater is moving so that recharge water or contaminants can be tracked. Groundwater levels are used to determine when additional replenishment water is required and are used to calculate storage changes. Groundwater levels can also be used to demonstrate possible source areas for seawater intrusion or show the effectiveness of seawater barrier wells.

WRD tracks groundwater levels throughout the year by measuring the depth to water in monitoring wells and production wells located throughout the CWCB. **Table 2.1** presents groundwater level measurements collected from the District's nested monitoring wells during water year 2009-10. In order to capture the daily and seasonal variations in water levels, WRD has installed automatic data-logging equipment in numerous wells to collect water levels daily. WRD also obtains water level data from cooperating entities such as the pumpers, DWR, and LACDPW, who collect water levels from their wells. These data are entered into WRD's GIS water level database for analysis.

From the water level database, a groundwater elevation contour map, change in groundwater level map, and groundwater elevation hydrographs for key wells are prepared to illustrate the current and historical groundwater conditions in the basins. These are presented and explained in the following sections.

2.1 GROUNDWATER ELEVATION CONTOURS

Figure 2.1 is a contour map showing the groundwater elevations measured across the CWCB in the deeper, main producing aquifers. The levels were measured at the end of the water year during Fall 2010. The Fall Contour Map shows that in the Central Basin, the highest water levels are in the Montebello Forebay; water levels decrease to the south

and west towards the Long Beach area, the Newport-Inglewood Uplift, and the Los Angeles Forebay, respectively.

In the West Coast Basin, water levels are highest along the West Coast Basin Barrier Injection Project, and decrease to the east where they are at their lowest elevation in Gardena between the Charnock Fault and Newport-Inglewood Uplift, both of which are geologic structural features restricting groundwater flow.

2.2 CHANGES IN GROUNDWATER LEVELS

The results of groundwater level changes observed over the water year are illustrated in Figure 2.2, which is a groundwater level change map. Groundwater levels increased modestly over most of the Central Basin during water year 2009-10. Water levels increased up to 14 feet in the Cerritos area and in the unconfined Montebello Forebay area up to 11 feet. Water levels decreased up to 3 feet in the Lakewood area. In the West Coast Basin water levels were generally stable to slightly increasing for the coastal area during water year 2009-10. Water levels increased in the Carson and Dominguez Gap areas of the West Coast Basin from 1 up to 5 feet and decreased in the Gardena area up to 6 feet.

2.3 GROUNDWATER LEVEL HYDROGRAPHS

WRD also uses hydrographs to track the changes in water levels in wells over time. Hydrographs reveal the seasonal fluctuations of water levels caused by variations in natural and artificial recharge, and the effects of pumping and other basin discharge. Historical hydrographs of water level data going back to the 1930s and 1940s in the Montebello Forebay, Los Angeles Forebay, Central Basin Pressure Area, and West Coast Basin are presented in the WRD Engineering Survey and Report (ESR). The ESR hydrographs illustrate the general history of groundwater conditions in the CWCB: 1) Steep water level declines occurred in the 1930s through 1950s as a result of excessive pumping (overdraft); 2) In the mid-1950s to early 1960s, there was a sharp reversal in this downward trend due to initiation of resource management policies, water levels increased through the 1970s and 1980s in response to reduced pumping, artificial

replenishment by WRD, and seawater barrier construction and injection; and 3) Over the past 10 to 15, years water levels have remained relatively stable as replenishment has been in closer balance to withdrawals.

Hydrographs for WRD nested monitoring wells that track water level changes through time from individual aquifer zones provide WRD with detailed, aquifer-specific water level information. The data for these annual hydrographs are collected from WRD's network of nested monitoring wells. **Figures 2.3 through 2.8** are historical hydrographs of key nested monitoring wells, one in the Montebello Forebay, one in the Los Angeles Forebay, two in the Central Basin Pressure Area, and two in the West Coast Basin, respectively. These hydrographs illustrate there can be distinct ground water elevation differences between individual aquifers at a nested well location. The differences in elevation are influenced by variable discharge (i.e. pumping wells) and recharge (i.e. injection, percolation, or underflow) and the degree of hydraulic communication between aquifers. These hydrographs are particularly useful in identifying which zones are in the main flow system when corresponding zones show the greatest depths and seasonal fluctuations in groundwater levels during the water year. Observations from **Figures 2.3 through 2.8** are explained in the following sections.

2.4 GROUNDWATER LEVELS IN THE MONTEBELLO FOREBAY

Figure 2.3 is a hydrograph for WRD's Rio Hondo #1 key nested monitoring well located in the Montebello Forebay at the Rio Hondo Spreading Grounds. It has six individual wells (zones) that are screened in the following aquifers (from shallowest to deepest): Gardena, Lynwood, Silverado, and Sunnyside (3 deepest zones), with depths ranging from 140 feet below ground surface (BGS) to 1,130 feet BGS. Because this well is in the Montebello Forebay, where the aquifers are in general hydraulic communication with each other, water level responses in all of the aquifers are similar and seasonal highs and lows are in response to recharge and pumping. Groundwater elevations are lowest in Zone 4, the Silverado Aquifer, suggesting that this aquifer is the most heavily pumped in the area. Water levels in Zone 4 increased over the past water year by about seven feet, but overall have dropped about 20 feet over the past 5 years.

2.5 GROUNDWATER LEVELS IN THE LOS ANGELES FOREBAY

Figure 2.4 is a hydrograph for WRD's Huntington Park #1 nested monitoring well located in the Los Angeles Forebay near the intersection of Slauson Avenue and Alameda Street. It has five individual zones that are screened in the following aquifers (from shallowest to deepest): Gaspar, Exposition, Gage, Jefferson, and Silverado, with depths ranging from 134 feet BGS to 910 feet BGS. Only four of the zones are shown on the hydrograph because the shallowest well (screened from 114 feet to 134 feet in the Gaspar Aquifer) is dry and perforated above the water table, and therefore no water elevations can be shown on the graph. There is a large separation in water levels between Zone 4 and the deeper three zones suggesting the presence of a low permeability aquitard(s) above zone 3 that hydraulically isolates the Exposition Aquifer from the deeper aquifers. Water levels in the deepest 2 zones, in the Silverado and Jefferson aquifers, were generally similar and trended downward through the year, decreasing by about 2 feet over the past water year. **Figure 2.4** suggests water levels in the Los Angeles Forebay have remained relatively stable and have generally decreased only 2 to 4 feet over the past 10 years.

2.6 GROUNDWATER LEVELS IN THE CENTRAL BASIN PRESSURE AREA

Figure 2.5 is a hydrograph for WRD's Willowbrook #1 nested monitoring well. Willowbrook #1 is located in the Central Basin Pressure Area, away from the Montebello Forebay, about 7 miles to the southwest. It has 4 individual zones that are screened in the Gage, Lynwood, Silverado, and Sunnyside Aquifers, with depths ranging from 200 feet BGS to 905 feet BGS. Water levels in Zone 1 show the greatest response to seasonal changes. The upper three zones have generally shallower water levels than the Zone 1. The upper 2 zones track very closely. These trends suggest some aquifer separation (aquitards) between Zone 1 and 2 and between zone 2 and 3. Zones 3 and 4 likely have little hydraulic separation. Willowbrook water levels in all zones dropped approximately 1 to 2 feet over water year 2009-10, and have declined about 24 feet over the past decade.

In another region of the Central Basin Pressure Area, **Figure 2.6** is the historical water level hydrograph for key nested monitoring well Long Beach #6 located in the Central

Basin Pressure Area, on Spring Street near the Long Beach Airport. It has 6 individual zones that are screened in the following (from shallowest to deepest): Gage, Lynwood, Silverado, Sunnyside (2 zones), and Pico Formation with depths ranging from 220 feet BGS to 1,510 feet BGS. Because this area in the Central Basin Pressure Area has multiple confined aquifers separated by substantial aquitards and experiences heavy seasonal pumping cycles, water level fluctuations can be larger than in other areas. For example, water levels in Zones 4 and 5, representing the Silverado and Lynwood Aquifers, have varied up to 110 feet through a seasonal cycle, from a high of 10 feet below sea level in April 2007 to a low of nearly 130 feet below sea level in recent years. Water levels of the other zones generally show significant seasonal variation also, with typical seasonal lows in the late summer and fall and highs in spring. Seasonal pumping cycles have changed in recent years and many production wells in the area near the Long Beach #6 monitoring well pump groundwater year-round when imported surface water is unavailable or expensive. When year-round pumping takes place, the typical Fall water level rebound does not occur and groundwater levels can remain at the low levels as seen during water year 2008-09. **Figure 2.6** shows that water levels remain near 7 year lows but did not decrease substantially over the past water year.

2.7 GROUNDWATER LEVELS IN THE WEST COAST BASIN

Figure 2.7 is a nested hydrograph for key nested monitoring well PM-4 Mariner. This well is located in the City of Torrance, in the coastal area inland from the West Coast Basin Seawater Barrier. It has 4 individual zones that are screened in the following aquifers (from shallowest to deepest): Lynwood (2 zones), Silverado, and Sunnyside, with depths ranging from 200 feet BGS to 710 feet BGS. All four zones respond similarly to seasonal fluctuations. Water levels in Zone 1, the Sunnyside Aquifer are deepest, separated from Zone 2 (Silverado Aquifer) which is several feet higher. Zones 3 and 4 (Lynwood and Gage Aquifers) are both about 2 feet above Zone 2. Water levels increased about 1 to 2 feet in all zones over the water year 2009-10 and have generally increased from 2 to 6 feet over the past 10 years.

Figure 2.8 is a hydrograph for WRD's Carson #1 nested monitoring well located in the

inland region of the West Coast Basin about 1.5 miles northwest of the intersection of the 405 Freeway and Alameda Street. It has 4 individual zones that are screened in the following aquifers (from shallowest to deepest): Gage, Lynwood, Silverado, and Sunnyside, with depths ranging from 250 feet BGS to 1,110 feet BGS. Water levels in Zone 1 track very similar to Zone 2 throughout the year, and Zone 3 tracks similar to Zone 4. Groundwater elevations differ by about 35 feet between the upper two zones and lower two zones which suggest the presence of a low permeability aquitard(s) between them that hydraulically isolate the shallow aquifers from the deeper ones. Water levels in Zones 1 and 2 finished the year about 2 feet higher than the previous year and have generally increased 25 feet over the past 10 years. Water levels in zones 3 and 4 have both been relatively stable over the past 5 years but have generally increased 10 feet over the past 10 years.

SECTION 3

GROUNDWATER AND REPLENISHMENT WATER QUALITY

This section discusses the vertical and horizontal distribution of water quality constituents in the CWCB based on data from WRD's monitoring wells, the quality of water from purveyor's production wells, and the quality of source waters used for CWCB groundwater replenishment. Regional groundwater quality maps summarize water quality constituents of interest in WRD nested monitoring wells and purveyors production wells. Water quality trends for total dissolved solids (TDS) are closely tracked as TDS is a good indicator of overall water quality.

Comparison of water quality results to various regulatory standards are made throughout this section. A brief discussion describing the regulatory standards used in the report follows. A Primary Maximum Contaminant Level (MCL) is an enforceable drinking water standard that the California Department of Public Health (CDPH) establishes after health effect, risk assessment, detection capability, treatability, and economic feasibility are considered. A Secondary MCL is established for constituents that impact aesthetics of the water, such as taste, odor, and color, and do not impact health. Various other criteria are used in discussing water quality. A Public Health Goal (PHG) is an advisory level that is developed by the Office of Environmental Health Hazard Assessment (OEHHA) after a thorough review of health effects and risk assessment studies. A Notification Level (NL) and Response Level (RL) are non-enforceable health-based advisory levels established by the CDPH based on preliminary review of health effects studies for which enforceable levels have not been established. NLs and RLs replaced State Action Levels effective January 1, 2005 per California Health and Safety Code Section 116455. It should also be noted that constituents with NLs often are considered unregulated contaminants for which additional monitoring may be required to determine the extent of exposure before MCLs and PHGs are established.

3.1 QUALITY OF GROUNDWATER

The focus of this section is groundwater quality from samples collected from WRD nested monitoring wells and purveyors production wells. Section 1 previously described the value of data from aquifer specific nested monitoring wells and these data provide the most valuable insight into CWCB groundwater quality. Semi-annual groundwater samples from WRD nested wells were collected and submitted to a CDPH certified laboratory for analytical testing for general water quality constituents and known or suspected natural and man-made contaminants. **Table 3.1** presents water quality analytical results from WRD nested monitoring wells in the Central Basin during water year 2009-10. **Table 3.2** presents water quality analytical results from WRD nested monitoring wells in the West Coast Basin during water year 2009-10. Supplementing the data from the nested monitoring well network, data for CWCB production wells were obtained from the CDPH based on results submitted over the past three years by purveyors for their Title 22 compliance.

Water quality maps for nested monitoring wells and production wells are presented for ten of the most significant water quality constituents including total dissolved solids (TDS), iron, manganese, nitrate, chloride, trichloroethylene (TCE), tetrachloroethylene (PCE), arsenic, total organic carbon (TOC), and perchlorate. The maps illustrate areal and vertical differences in water quality between the different aquifers and compare the aquifer specific water quality data from WRDs nested monitoring wells to the averaged water quality data collected from purveyor's production wells.

Trends for TDS are presented for six key nested monitoring wells in the CWCB. Four key Central Basin wells are located in the Montebello Forebay, the Los Angeles Forebay, the western Central Basin Pressure Area, and the southern Central Basin Pressure Area. Two key wells represent the West Coast Basin, including one for the coastal area and one for the inland area. Each key well trend shows long-term (up to 12 years) variation of TDS in the different aquifers. Locations of the six TDS key wells are shown on **Figure 1.3**.

3.1.1 Total Dissolved Solids (TDS)

TDS is a measure of the total mineralization of water and is indicative of general water quality. In general, the higher the TDS, the less desirable a given water supply is for beneficial uses. The Secondary MCL for TDS ranges from 500 milligrams per liter (mg/L), which is the recommended level, to an upper level of 1,000 mg/L, and to 1,500 mg/L, which is the upper level allowed for short-term use. WRD uses the 1,000 mg/L upper level MCL for water quality comparisons and analyses.

WRD nested monitoring well data for water year 2009-10 indicate relatively low TDS concentrations for groundwater in the deeper producing aquifers of the Central Basin (**Figure 3.1**). In the Central Basin, Silverado Aquifer zones in 22 out of 28 (79%) WRD nested monitoring wells had TDS concentrations below 500 mg/L and 26 out of 28 (93%) were below 1,000 mg/L. In contrast, West Coast Basin nested monitoring well data show generally higher TDS concentrations. Silverado zones of 6 out of 17 (35%) nested wells had TDS below 500 mg/L and 10 out of 17 (59%) had were below 1000 mg/L. Elevated TDS concentrations are observed along the coastal margins of the West Coast Basin and the Dominguez Gap area.

Figure 3.2 presents CDPH water quality data for TDS in production wells across the CWCBC for the period spanning water years 2007-10. In the Central Basin, TDS generally ranged between 250 and 750 mg/L over most of the basin. A few wells along the San Gabriel River, in the Norwalk area, contained TDS in excess of 750 mg/L. Another localized area in the northernmost portion of the Central Basin shows a grouping of production wells between 500 and 750 mg/L. Data from many of the production wells in the southernmost portion of the Central Basin indicated TDS less than 250 mg/L.

Data from West Coast Basin wells indicate that most drinking water wells in production had TDS concentrations below 750 mg/L. Several production wells located close to the coast in the Manhattan Beach/Hawthorne/Torrance areas had TDS concentrations above 750 mg/L. Inland production wells had generally lower TDS. In the Carson area, TDS

was generally below 250 mg/L and in the Gardena area TDS was below 500 mg/L in most wells.

Trends in TDS concentrations at six key WRD nested monitoring wells are shown on **Figures 3.3 thru 3.8**. All of the aquifers in the 4 key Central Basin wells were below the MCL for TDS. Trends are generally stable to slightly increasing over the past 7 to 11 years. In the Montebello and Los Angeles Forebays (**Figures 3.3 and 3.4**) the deeper aquifers show little variability while the shallowest aquifers tend to fluctuate somewhat, possibly in response to variations in recharge water. In the western sub-area of the Central Basin Pressure Area, **Figure 3.5** (Willowbrook #1) shows steady concentrations in all aquifers with little variability over the past 12 years. In the southern sub-area of the Central Basin, **Figure 3.6** shows (Long Beach #6) slightly decreasing TDS concentrations are shown with little variability in the four shallowest aquifers, and more variable, slightly increasing TDS in the deeper two aquifers.

In the West Coast Basin, the TDS trend for the Silverado Aquifer in the coastal sub-area (PM-4 Mariner) is far above the MCL and has been generally increasing over the past 12 years as shown on **Figure 3.7**. This zone has been impacted by the saline plume from historic seawater intrusion. Other aquifers at this monitoring location have relatively stable TDS at concentrations below the MCL. TDS concentrations for the inland West Coast Basin key well (Carson #1) are shown on **Figure 3.8** with low TDS and trends generally stable in the deeper aquifers and show TDS decreasing substantially over the decade in the shallowest aquifer.

3.1.2 Iron

Iron occurs naturally in groundwater. Additionally, it is leached from minerals or steel pipes. Sufficient concentrations of iron in water can affect the water's suitability for domestic or industrial purposes. The Secondary MCL for iron in drinking water is 0.3 mg/L. High concentrations of iron in water stains plumbing fixtures and clothing, encrusts well screens, clogs pipes, and may impart a salty taste. It is considered an

essential nutrient, important for human health, and does not pose significant health effects except in special cases. Some industrial processes cannot tolerate more than 0.1 mg/L.

Nested monitoring well data do not indicate iron to be a widespread water quality problem in groundwater in the CWCBC. **Figure 3.9** shows iron data in WRD nested monitoring wells for water year 2009-10. In the Central Basin, iron was below the MCL in Silverado zones in 26 out of the 28 nested wells tested. In zones above or below the Silverado, iron was detected above the MCL in only 5 out of the 28 Central Basin nested wells. Iron was detected above the MCL in only one Silverado zone, and in only three wells above or below the Silverado.

At nested monitoring wells in the West Coast Basin, elevated iron occurs locally. Iron is generally detected in one or more zones at all 17 well locations at concentrations below the MCL. One well in the West Coast Basin had an iron concentration in the Silverado exceeding the MCL. Four wells had iron concentrations above the MCL in shallow zones above the Silverado.

Figure 3.10 presents CDPH water quality data for iron in production wells across the CWCBC for the period spanning water years 2007-10. Data from CDPH indicate 31 of 258 (12%) Central Basin production wells tested have iron concentrations in groundwater exceeding the secondary MCL. In the West Coast Basin, 7 production wells out of 32 (22%) tested have iron concentrations exceeding the secondary MCL. There does not appear to be a distinct pattern to the occurrence of elevated iron but it appears that samples from production wells tend to show higher iron levels than samples from nested monitoring wells.

3.1.3 Manganese

Manganese, like iron, is also naturally occurring and is objectionable in water in the same general way as iron. Stains caused by manganese are black and are more unsightly and harder to remove than those caused by iron. The Secondary MCL for manganese is

50 micrograms per liter ($\mu\text{g/L}$). Like iron, it is considered an essential nutrient for human health.

Manganese concentrations in the WRD nested monitoring wells exhibit (**Figure 3.11**) widespread vertical and horizontal variations across the CWCB. In the southern portion of the basin, elevated manganese typically occurs in shallower aquifers above the Silverado producing zones. In the northern portion of the Central Basin, manganese is present in shallow zones, the Silverado zones, and the deeper zones. Seven nested monitoring wells in the Central Basin had manganese concentrations exceeding the MCL in the Silverado Aquifer.

In the southern portion of the West Coast Basin, elevated manganese concentrations were limited to aquifer zones above the Silverado. In the western and northern portions of the West Coast Basin, manganese concentrations exceeding the MCL are not limited to any specific zone.

Figure 3.12 presents CDPH water quality data for manganese in production wells across the CWCB for the period spanning water years 2007-10. In the Central Basin, data show a large number of wells having elevated manganese concentrations with 47 out of 247 production wells (19%) tested exceeding the MCL. The production wells with elevated manganese are not limited to a specific area but tend to be widespread, but there does appear to be an area around and south of the Montebello Forebay Spreading Grounds and a second area at the southern end of the Central Basin where manganese is consistently below the MCL or not detected at all. In the West Coast Basin 18 out of 32 production wells (56%) tested had concentrations of manganese exceeding the MCL.

3.1.4 Nitrate

CDPH Primary MCLs limit two forms of nitrogen in drinking water, nitrite and nitrate. Nitrate cannot exceed concentrations of 45 mg/L (measured as Nitrate), corresponding to 10 mg/L nitrate as nitrogen. Nitrite is limited to 1 mg/L as nitrogen. The combined total of the nitrite and nitrate, measured as total nitrogen cannot exceed 10 mg/L. These

constituents are of concern because they present an acute health risk and can cause anoxia in infants. When consumed in excess of these limits, they reduce the uptake of oxygen causing shortness of breath, lethargy, and a bluish color.

Nitrate concentrations in groundwater are a concern because their presence indicates that a degree of contamination has occurred due to the degradation of organic matter. Native groundwater typically does not contain nitrate. It is usually introduced into groundwater from agricultural practices such as fertilizing crops or lawns and leaching of animal wastes. Low concentrations of nitrogen compounds, including nitrate and nitrite, are in treated recycled water below regulatory and permitted levels and may contribute nitrate to groundwater. Typically, organic nitrogen and ammonia are the initial byproducts of the decomposition of human or animal wastes. Upon oxidation, the organic nitrogen and ammonia are converted first to nitrite and then nitrate ions in the subsurface. A portion of the nitrite and nitrate are converted to nitrogen gas and hence, are returned to the atmosphere. Nitrate itself is not harmful; however, it can be converted back to nitrite, which can be harmful.

Figure 3.13 presents nitrate (as nitrogen) water quality data for nested monitoring wells in the CWCB during water year 2009-10. Nested monitoring wells in the very near vicinity of the Montebello Forebay Spreading Grounds indicate concentrations of nitrate slightly above detection limits but below the MCL. Silverado and deeper zones of nested wells more distant from the spreading grounds do not generally have detectable concentrations of nitrate. The detectable but relatively low concentrations of nitrate at and near the spreading grounds may be due to the local water and/or recycled water component of recharge at the spreading grounds. Nitrate is also observed in shallow zones at numerous nested monitoring well locations around the Central Basin. Shallow occurrences of nitrate, may be attributed to local surface recharge impacted by agricultural activities prior to extensive land development.

In the West Coast Basin nested monitoring wells, nitrate was limited to the shallowest zones of several monitoring wells. As in the Central Basin, shallow zone occurrences of

nitrate with deeper zones below detection limits may be attributable to local surface recharge impacted by agricultural activities prior to extensive land development.

Figure 3.14 presents CDPH water quality data for nitrate in production wells across the CWCB for the period spanning water years 2007-10. Detectable concentrations below the MCL were generally located in the vicinity of the Montebello and Los Angeles Forebays, and in far northwestern portion of the Central Basin. Production wells in the southern portion of the Central Basin, and all of the West Coast Basin, show relatively low nitrate concentrations below 3 mg/L or nitrate was not detected at all. The nitrate MCL was not exceeded in any production well in the CWCB during the 2007-10 period.

3.1.5 Chloride

Chloride at elevated levels causes water to taste salty and chloride is the characteristic constituent used to identify seawater intrusion. The secondary MCL for chloride is 250 mg/L with an upper level MCL of 500 mg/L, and a short term MCL of 600 mg/l. **Figure 3.15** presents water quality data for chloride in WRD nested monitoring wells in the CWCB during water year 2009-10. In the Central Basin the Silverado zones of the nested monitoring wells contain generally low chloride concentrations. In the West Coast Basin chloride concentrations exceeded the secondary upper MCL limit in the Silverado zones in about a third of the West Coast Basin nested wells, primarily in areas where seawater intrusion could be the source, or from sources yet to be identified. Numerous wells in the West Coast Basin show chloride impacts above and below the Silverado aquifer.

Figure 3.16 presents CDPH water quality data for chloride in production wells in the CWCB for the period spanning water years 2007-10. Chloride was not detected above the secondary upper MCL level in any of the Central Basin production wells. In the southern portion of the Central Basin, chloride concentrations in production wells were generally below 50 mg/L. In the northeastern portion of the Central Basin, chloride concentrations ranged from 50 to 100 mg/L. In the West Coast Basin, available CDPH data indicate that one production well on the west side of the basin had a chloride

concentration above the upper level MCL. Several other production wells inland from the coast show somewhat elevated chloride concentrations above the recommended MCL. Production wells further inland in the West Coast Basin generally have very low chloride concentrations.

3.1.6 Trichloroethylene (TCE)

TCE is a solvent used in metal degreasing, textile processing, and dry cleaning. Because of its potential health effects, it has been classified as a probable human carcinogen. The Primary MCL for TCE in drinking water is 5 µg/L. Its presence in groundwater likely originated from improper disposal practices. If present in water, it can be removed easily by common treatment processes, including air stripping or granular activated carbon.

TCE (**Figure 3.17**) was detected in nine WRD nested monitoring well locations in the Central Basin. In the West Coast Basin, TCE was detected in shallow zones of three nested monitoring wells. No Central Basin or West Coast Basin nested well contained a detectable TCE concentration in the Silverado aquifer.

Figure 3.18 presents CDPH water quality data for TCE in production wells across the CWCBA the period spanning water years 2007-10. A total of 284 wells were tested for TCE. The data show that over the past three years, TCE has been detected in 58 production wells in the Central Basin. Eighteen detections were above the MCL. Wells impacted by TCE are located in the northern portion of the Central Basin, within or near the Montebello and Los Angeles Forebay areas. In the West Coast Basin, TCE was not detected in any production wells.

3.1.7 Tetrachloroethylene (PCE)

PCE (also known as tetrachloroethylene, perc, perclene, and perchlor) is a solvent used commonly in the dry cleaning industry, as well as in metal degreasing and textile processing. Like TCE, PCE is a probable human carcinogen. The Primary MCL for PCE in drinking water is 5 µg/L. Through improper disposal practices, PCE has contaminated many groundwater basins. Like TCE, PCE can be easily removed from water using

common treatment processes.

During water year 2009-10, PCE (**Figure 3.19**) was detected at 9 nested well locations in the Central Basin. In the Silverado Aquifer, there were two detections, both below the MCL. Generally, PCE detected in nested wells occurred within or near the vicinity of the Montebello and Los Angeles Forebays. In the West Coast Basin, PCE was detected below the MCL in the shallowest zone at one nested monitoring well.

Figure 3.20 presents CDPH water quality data for PCE in production wells across the CWCB for the period spanning water years 2007-10. In the Central Basin, PCE was detected in 60 production wells out of 284 wells tested. Twelve of the 60 wells exceeded the MCL for PCE. Production wells with detectable PCE are primarily located within the vicinity of the Los Angeles and Montebello Forebays and extend southwestward and southward into the Central Basin Pressure Area. PCE was not detected in any production wells tested in the West Coast Basin.

3.1.8 Arsenic

Arsenic is an element that occurs naturally in the earth's crust and accordingly, there are natural sources of exposure. Natural sources of arsenic include weathering and erosion of rocks, deposition of arsenic in water bodies, and uptake of the metal by animals and plants. Consumption of food and water are the major sources of arsenic exposure for the majority of U.S. citizens. Over 90% of commercial arsenic is used as a wood preservative in the form of chromate copper arsenate to prevent dry rot, fungi, molds, termites, and other pests. People may also be exposed from industrial applications, such as semiconductor manufacturing, petroleum refining, animal feed additives, and herbicides. Arsenic is classified as a known human carcinogen by the EPA, and also causes other health effects, such as high blood pressure and diabetes. The CDPH established a primary MCL for arsenic at 10 µg/L.

Figure 3.21 presents arsenic water quality data for WRD nested monitoring wells during water year 2009-10. In the Central Basin, arsenic concentrations ranged from non-

detectable to 36 µg/L. Arsenic concentrations greater than the MCL in the Central Basin were found at seven nested wells but only one well had arsenic over the MCL in the Silverado aquifer. Arsenic concentrations exceeding the MCL in the Silverado aquifer zones were found at only one Central Basin nested monitoring well. In the West Coast Basin, arsenic was detected above the MCL at three nested monitoring wells and one detection was in a Silverado aquifer zone.

Figure 3.22 presents CDPH water quality data for arsenic in production wells across the CWCB for the period spanning water years 2007-10. Ten production wells in the Central Basin contained arsenic concentrations above the MCL. Arsenic did not exceed the MCL in any West Coast Basin production wells.

3.1.9 Total Organic Carbon (TOC)

Total organic carbon (TOC) is the broadest measure of the concentration of organic molecules in water and is of interest because it gives an indication of the potential formation of disinfectant byproducts, some of which are harmful. TOC can be naturally occurring, result from domestic and commercial activities, or can be a product of wastewater treatment processes. While there is no MCL established for TOC, the CDPH is generally interested in TOC of wastewater origin as a compliance criterion for groundwater recharge. Typically, wastewater that has been subjected to effective secondary treatment contains 5 to 8 mg/L of TOC. Advanced treatment can effectively lower the TOC concentration to less than 1 mg/L. Likewise, water percolating through the soil has also been proven to reduce wastewater TOC through a process known as soil-aquifer treatment (SAT) or geo-purification. However, TOC in groundwater may also occur naturally and have no relation to wastewater. Studies indicate that the TOC measured in groundwater samples in both nested monitoring wells and production wells in the CWCB naturally occurs in the aquifer systems and was derived from organic material and decaying vegetation either deposited with the aquifer sediments as the basins were filling or originally contained in imported water (AWWA, 2001).

Figure 3.23 presents TOC water quality data for WRD nested monitoring wells during

water year 2009-10. In the Central Basin, TOC was present in multiple zones of all 28 nested monitoring wells. In the West Coast Basin, TOC greater than 1 mg/L is present in one or more zones at all 17 nested monitoring wells tested, and at concentrations greater than 5 mg/L in one or more zones at 9 of the 17 West Coast Basin nested monitoring wells. Where TOC is present, concentrations are typically below 1 mg/L and less frequently between 1 and 5 mg/L. The lower concentrations occur in the shallow and middle zones of the nested wells; higher concentrations of TOC are generally found in the deeper zones. WRD has previously reported an association between deeper naturally occurring TOC and the occurrence of apparent color (colored water) concentrations in groundwater. Deeper wells with TOC greater than 5 mg/L are likely to contain naturally occurring organic carbon, and not wastewater related organic carbon.

Figure 3.24 presents limited CDPH water quality data for TOC in production wells across the CWCB for the period spanning water years 2007-10. During the three-year period, only 57 production wells were tested for TOC as purveyors are not required to monitor TOC under Title 22 regulations. Forty-one production wells had TOC concentrations above 1 mg/L, and 12 of those were over 5 mg/L.

3.1.10 Perchlorate

Perchlorate is used in a variety of defense and industrial applications, such as rockets, missiles, road flares, fireworks, air bag inflators, lubricating oils, tanning and finishing leather, and the production of paints and enamels. When ingested, it can inhibit the proper uptake of iodide by the thyroid gland, which causes a decrease in hormones for normal growth and development and normal metabolism. In October 2007, the CDPH finalized a new primary MCL at 6 µg/L for perchlorate.

Figure 3.25 presents perchlorate water quality data for WRD nested monitoring wells during water year 2009-10. In the Central Basin perchlorate was detected at 15 of 28 nested monitoring wells, with a detection at one well exceeding the MCL. In the West Coast Basin, perchlorate was detected at two out of 17 nested monitoring wells, with one detection above the MCL.

Figure 3.26 presents CDPH water quality data for perchlorate in production wells across the CWCB for the period spanning water years 2007-10. Five production wells had detectable perchlorate and only 2 out of 280 production wells tested in the CWCB contained perchlorate concentrations above the revised MCL. Perchlorate was not detected in any West Coast Basin production wells.

3.2 QUALITY OF REPLENISHMENT WATER

This section discusses water quality data for key parameters in WRD replenishment water and local surface water. Although numerous constituents are monitored, the constituents reported here are the ones found to be most prevalent at elevated levels or are of current regulatory interest. The data are classified according to their sources. The key water quality parameters of this discussion are the same as those discussed for the WRD nested monitoring wells: TDS, iron, manganese, nitrate, chloride, TCE, PCE, arsenic, TOC, and perchlorate. Monitoring the concentrations of these constituents is necessary for an understanding of the general chemical nature of the recharge source, and its suitability for replenishing the groundwater basins.

3.2.1 Quality of Imported Water

Both treated and untreated imported water are used for groundwater recharge in the CWCB. Only treated imported water is used at the seawater barriers. This water meets all drinking water standards and is suitable for direct injection. Average water quality data for treated imported water are presented in **Table 3.3**. Untreated imported water (“raw water”) is used for recharge at the Montebello Forebay spreading grounds. The untreated imported water can be State Project Water, Colorado River Water, or a blend of State Project Water and Colorado River Water.

In 2009 the average TDS concentration of untreated Colorado River water was 623 mg/L and the average TDS concentration of untreated State Project Water was 303 mg/L.

Nitrate averages were 0.3 mg/L in untreated Colorado River Water and the average

nitrate concentration of State Project Water was 0.8 mg/L. Recently and historically, both Colorado River and State Project Water nitrate concentrations have been far below the MCL.

The average iron and manganese concentrations of untreated Colorado River Water have remained below detection limits. Iron and manganese in State Project Water was also below detection limits. Both Colorado River and State Project Water iron and manganese concentrations have historically been below the MCL.

The average chloride concentrations of Colorado River Water and State Project Water have not changed significantly over the past several years. State Project Water chloride concentrations have historically been below their respective MCLs as has the chloride concentration in Colorado River Water.

TOC was reported at 2.7 and 1.9 mg/L in untreated Colorado River and State Project Water respectively. According to the MWD, TCE and PCE have not been detected in Colorado River Water or State Project Water during the calendar year 2009 reporting period. Perchlorate was below the MCL in untreated Colorado River Water and not detected in State Project Water during calendar year 2009.

3.2.2 Quality of Recycled Water

Recycled water is used for groundwater recharge in the CWCB through spreading grounds percolation and barrier injection. In the Montebello Forebay, recycled water from the Whittier Narrows Water Reclamation Plant (WRP), San Jose Creek East WRP, San Jose Creek West WRP, and Pomona WRP is diverted into spreading basins where it percolates into the subsurface. The water quality from these WRPs is carefully controlled and monitored, as required by permits, and typically shows little variation over time. Average water quality data from these WRPs is shown in **Table 3.3**. All constituents listed have remained stable over recent water years. Furthermore, TCE, PCE, and perchlorate have either not been detected or have been detected well below their respective MCL in recycled water from the four WRPs.

Recycled water from the West Basin Municipal Water District WRP undergoes advanced treatment using microfiltration, reverse osmosis, ultraviolet light, and advanced oxidation with hydrogen peroxide, and is blended with imported water, then injected at the West Coast Barrier. This water is treated to comply with all drinking water standards and is suitable for direct injection. The blend of recycled water and imported water is injected to prevent the intrusion of seawater and to replenish the groundwater basins. The West Basin Municipal Water District received approval from the Los Angeles Regional Water Quality Control Board (LARWQCB) to use 75 percent and conditional approval for up to 100 percent recycled water at the West Coast Barrier. **Table 3.3** presents average water quality data for this injected recycled water.

The Alamitos Seawater Barrier receives a blend of treated imported water and recycled water from the Leo J. Vander Lans Treatment Facility, owned by WRD. The recycled water is disinfected tertiary effluent from the Long Beach Water Reclamation Plant of the County Sanitation Districts of Los Angeles County (CSDLAC) which is further treated with microfiltration, reverse osmosis, and ultraviolet light by WRD. The water meets drinking water quality standards and other stringent requirements of regulatory agencies for injection into a seawater barrier. This project began deliveries in October 2005. **Table 3.3** presents average water quality of the recycled water prior to blending.

Tertiary effluent from the City of Los Angeles Terminal Island Treatment Plant (TITP) is treated further at the Advanced Water Treatment Facility (AWTF) with microfiltration, reverse osmosis, and disinfection with chlorine to produce recycled water. The water meets drinking water quality standards and also other stringent requirements by regulatory agencies for injection into a seawater barrier. Deliveries began in February 2006. **Table 3.3** presents average water quality data of the recycled water from the TITP AWTF.

3.2.3 Quality of Stormwater

Stormwater infiltrates to some degree throughout the District. It is also intentionally diverted from the major storm channels and percolated along with imported and recycled water at the Montebello Forebay Spreading Grounds. Periodic stormwater quality analyses have been performed by LACDPW throughout the history of operations at the Montebello Forebay Spreading Grounds. Average stormwater quality data for water year 2009-10 are presented on **Table 3.3**. The average TDS, manganese, nitrate, chloride, TCE, and PCE, and perchlorate in stormwater spread in the Montebello Forebay are relatively low. Stormwater TOC was 8.1 mg/L, which is higher than other sources. Metals including iron, lead and copper were relatively high in tested stormwater.

3.3 MINERAL CHARACTERISTICS OF GROUNDWATER IN THE CENTRAL AND WEST COAST BASINS

Major minerals data obtained from laboratory analyses were used to characterize groundwater from discrete vertical zones of each WRD well (**Table 3.4**). Research by the USGS has provided three distinct groupings of groundwater compositions. Group A groundwater is typically calcium bicarbonate or calcium bicarbonate/sulfate dominant. Group B groundwater has a typically calcium-sodium bicarbonate or sodium bicarbonate character. Group C has a sodium chloride character. A few of the WRD wells yield groundwater samples which do not fall into one of the three major groups and are classified separately in Group D.

Groundwater from Group A likely represents recent recharge water containing a significant percentage of imported water. Groundwater from Group B represents older native groundwater replenished by natural local recharge. Groundwater from Group C represents groundwater impacted by seawater intrusion or connate saline brines. **Table 3.4** lists the groundwater group for each WRD nested monitoring well. Comparison of groundwater groups with well locations indicates that, in general, Group A groundwater is found at and immediately downgradient from the Montebello Forebay Spreading Grounds in all but the deepest zones. Group B groundwater is found farther down the flow path of the Central Basin and inland of the salt water wedge and

injected water in the West Coast Basin. Group C water is generally found near the coastlines or in deeper zones. Several wells, grouped as “Other” on **Table 3.4**, exhibit a chemical character range different from Group A, B, and C ranges and represents unique waters not characteristic of the dominant flow systems in the basins. The USGS is conducting ongoing research on trace element isotopes in water from these wells to identify their hydrogeologic source(s).

The major mineral compositions of water from the WRD nested monitoring wells sampled this water year have not changed substantially from previous years. It is expected that continued analysis will show gradual changes in major mineral compositions over time, as older native water is extracted from the basins and replaced by younger naturally and artificially replenished water.

SECTION 4

SUMMARY OF FINDINGS

This Regional Groundwater Monitoring Report was prepared by WRD to provide a comprehensive review of groundwater conditions in the CWCB during water year 2009-10. A summary of findings is presented below.

- Artificial replenishment activities combined with natural replenishment and controlled pumping have ensured a sustainable, reliable supply of groundwater in the CWCB. Artificial replenishment water sources used by WRD include imported water from the MWD, recycled water from the CSDLAC, and recycled water with advanced treatment from WBMWD, the City of Los Angeles, and WRD's Leo J. Vander Lans water treatment facility.
- Groundwater levels (heads) are monitored continuously in the CWCB during the year. The WRD nested monitoring wells show clear, significant differences in groundwater elevations between the various aquifers. The water level differences in the WRD nested monitoring wells reflect both hydrogeologic and pumping conditions in the CWCB. Vertical head differences between 1 and 40 feet occur between zones above and within the producing zones. The greatest head differences between aquifers tend to occur in the Long Beach area of the Central Basin and the inland Gardena and Carson areas of the West Coast Basin, while the smallest differences occur in the Montebello Forebay recharge area, and the Torrance area which has merged aquifers.
- Basinwide hydrographs and groundwater elevations measured in nested monitoring wells and key production wells indicate general increases with some local decreases in water levels over the Central Basin during water year 2009-10. Groundwater levels increased modestly over most of the Central Basin during water year 2009-10. Water levels increased up to 14 feet in the Cerritos area and in the unconfined Montebello Forebay area up to 11 feet. Water levels decreased up to 3 feet around the Lakewood area.
- Water levels were generally stable to slightly increasing for the coastal area of the

West Coast Basin during water year 2009-10. Water levels increased in the coastal, Carson, and Dominguez Gap areas of West Coast Basin from 1 up to 5 feet and decreased in the Gardena area up to 6 feet.

- Based on data obtained from WRD nested monitoring wells during water year 2009-10, the water quality associated with key constituents in groundwater differs both vertically between aquifers and horizontally across the CWCB.
- TDS concentrations for WRD wells located in the Central Basin are relatively low, while TDS concentrations for WRD wells located in the West Coast Basin are elevated in portions of the basin, primarily the Torrance and Dominguez Gap areas. The elevated TDS concentrations may be caused by seawater intrusion, connate brines, or possibly oil field brines.
- The Secondary MCL for iron is 0.3 mg/L. Iron is generally present at low levels in most WRD nested monitoring wells. Concentrations were above the MCL in only three wells and only one Silverado Aquifer zone. Iron was detected above the MCL in 31 of 258 production wells tested. Sources of the localized high iron concentrations have not yet been identified, but are possibly naturally occurring or come from well casings.
- Manganese concentrations exceed the MCL (50 µg/L) in a large number of nested monitoring wells and production wells across the CWCB. Similar to iron, sources of the localized high manganese concentrations have not yet been identified, but are possibly naturally occurring.
- Chloride concentrations are reasonably low in Central Basin monitoring wells and production wells, as well as in wells in the inland areas of the West Coast Basin. Some coastal areas of the West Coast Basin are impacted by high chloride groundwater.
- Nitrate concentrations in WRD nested monitoring wells in the CWCB are generally below MCLs. Concentrations approaching or exceeding the MCL (10 mg/L) tend to be limited to the uppermost zone at a particular nested well and are likely due to localized surface recharge. Concentrations above the MCL were not observed in the Silverado aquifer. CDPH data indicates that none of the CWCB production wells tested for nitrate above the MCL during the period spanning water years 2007-10.

- TCE was not detected in the Silverado Aquifer in any of the WRD nested monitoring wells sampled. The MCL for TCE in drinking water is 5 µg/L. CDPH data indicate that TCE was detected in 58 production wells in the Central Basin during the period spanning water years 2007-10, 18 out of the 58 detections exceed the MCL for TCE. In the West Coast Basin, TCE was not detected above the MCL in any production wells.
- The MCL for PCE in drinking water is 5 µg/L. PCE was detected in 9 WRD nested monitoring wells in the Central Basin and one in the West Coast Basin. PCE was detected in the Silverado aquifer in two WRD nested wells, both below the MCL. CDPH data indicate that PCE was detected in 60 production wells in the Central Basin during the period spanning water years 2007-10. A total of 12 out of the 60 detections exceeded the MCL for PCE. PCE was not detected in any of the West Coast Basin production wells.
- The MCL for arsenic in drinking water is 10 µg/L. WRD nested monitoring wells indicate that arsenic concentrations in the south-central and especially near the eastern side of the Central Basin can exceed the State MCL. Ten production wells in the Central Basin have arsenic concentrations exceeding the MCL of 10 µg/L. Arsenic was not detected above the MCL in any of the West Coast Basin production wells.
- Total organic carbon, while not regulated, is being monitored and studied in relation to the use of recycled water for artificial recharge and future development of potential groundwater production from deeper portions of the CWCB than have typically been utilized in the past. Lower concentrations were found in shallow and moderate zones, and higher concentrations (greater than 5 mg/L) were found in deeper zones.
- The MCL for perchlorate in drinking water is 6 µg/L. Perchlorate was detected in 15 of 28 nested monitoring wells in the Central Basin, and above the MCL (6 µg/L) at one location. In the West Coast Basin perchlorate was detected in 2 of 17 nested wells with one detection above the MCL. Perchlorate was detected in 5 Central Basin production wells, exceeding the MCL in 2 of them. Perchlorate was not detected in any production wells in the West Coast Basin.
- The water quality associated with key constituents in untreated imported water used

at the Montebello Forebay Spreading Grounds and treated imported water used at the Seawater Barriers remains good. Average TDS, hardness, iron, and manganese concentrations in imported water used for recharge, comply with their respective MCLs. Meanwhile, TCE and PCE were not detected in either water source. Perchlorate was detected below the MCL in untreated Colorado River water and was not detected in untreated State Project water.

- The water quality associated with key constituents in recycled water used at the Montebello Forebay Spreading Grounds and barrier injection wells also remains in compliance and is monitored regularly to ensure its safe use.
- Stormwater samples are collected and analyzed for water quality parameters by the LACDPW. Recent available data from water year 2009-10 show that average stormwater TDS concentrations are lower than most other sources of replenishment water and other constituent concentrations make stormwater a good replenishment source.
- As shown by the data presented herein, groundwater in the CWCB is of generally good quality and is suitable for use by the pumpers in the District, the stakeholders, and the public. Groundwater from localized areas with marginal to poor water quality can still be utilized but may require treatment prior to being used as a potable source.

SECTION 5

FUTURE ACTIVITIES

WRD will continue to update and augment its Regional Groundwater Monitoring Program to best serve the needs of the District, the pumpers, and the public. Some of the activities planned or which utilize data generated from this program for the upcoming water year 2009-10 are listed below.

- WRD will continue to maximize recycled water use at the Montebello Forebay Spreading Grounds without exceeding regulatory limits; recycled water is a high quality, reliable, and relatively low-cost replenishment water source. Due to the scarcity of discounted imported replenishment water deliveries from MWD, WRD has developed the Water Independence Now (WIN) initiative, which includes increasing the safe use of recycled water for groundwater recharge and reducing the reliance on imported water supplies.
- WRD will continue to maximize recycled water use at the West Coast Barrier and will promote maximum permitted recycled water injection at the Dominguez Gap and Alamitos Gap Barriers. Extensive monitoring of these recycled water injection projects will be performed by WRD Staff to comply with applicable permit conditions and to track subsurface movement of the recycled water.
- WRD will continue to monitor the quality of replenishment water sources to ensure the CWCB are being recharged with high-quality water.
- WRD continues refining the regional understanding of groundwater occurrence, movement, and quality. Water levels will be recorded using automatic dataloggers to monitor groundwater elevation differences throughout the year. Conductivity sensors are being utilized at selected locations which can track water quality changes to supplement the automated water level data. Telemetry technology is being tested which can send real-time water level data directly to the WRD office and post the information onto the WRD website.
- WRD is currently expanding its network of nested monitoring wells to get a better

understanding of groundwater levels and groundwater quality. Three new wells have been completed in the past year, and five additional wells are scheduled to be completed by 2012. Each year, WRD evaluates the need to fill data gaps in the water level data, water quality data, and hydrogeologic conceptual model with additional geologic data provided from drilling, construction, and monitoring of nested wells.

- WRD will continue to sample groundwater from nested monitoring wells, and analyze the samples for general water quality constituents. In addition, WRD will continue to focus on constituents of interest to WRD, the pumpers, and other stakeholders such as TCE, PCE, arsenic, fuel oxygenates, TOC, apparent color, hexavalent chromium, and perchlorate. Emerging chemicals of concern which have not been comprehensively monitored could include pesticides, n-nitrosodimethylamine (NDMA), 1,4-dioxane, pharmaceuticals, and other emerging chemicals of concern.
- WRD staff will be working on refining the hydrogeologic conceptual model of the CWCB using data from the RGWMP and other data to improve the framework for understanding the dynamics of the groundwater system and use as a planning tool.
- WRD will continue efforts under its Groundwater Contamination Prevention Program in order to minimize or eliminate threats to groundwater supplies. The Groundwater Contamination Prevention Program includes several ongoing efforts, including the Central and West Coast Basin Groundwater Contamination Forum with key stakeholders including the Environmental Protection Agency, Department of Toxic Substances Control, Los Angeles Regional Water Quality Control Board, California Department of Public Health, United States Geological Survey, and various cities. Stakeholders meet regularly (meetings are held 3 to 4 times per year at WRD) and share data on contaminated groundwater sites within the District. WRD has acted as the meeting coordinator and data repository/distributor, helping stakeholders to characterize contamination and develop optimal methods for addressing contamination. WRD has developed a list of high-priority contaminated groundwater sites within the District. The list includes approximately 47 sites across the CWCB.
- In 2003, WRD developed a scope of work with the LACDHS to clarify the status of 217 potentially abandoned (a.k.a., “unknown status”) wells located within District

boundaries, as identified through researching WRD's groundwater production database. WRD was able to reduce the number of "unknown status" wells from 217 to 20. Most of the remaining 20 are suspected to have been paved over during development of industrial and residential neighborhoods.

- WRD will continue to be proactively involved in the oversight of the most significant contaminated sites that threaten CWCW groundwater resources.
- WRD will continue to fund the Safe Drinking Water Program to address VOC impacted groundwater, especially by PCE and TCE in the CWCW.
- Salt / Nutrient Management Plans are a new State requirement for groundwater basins throughout California. The Plans are required as part of the Recycled Water Policy issued by the State Water Resources Control Board (SWRCB) and effective as of May 14, 2009. As stated in the Policy, its purpose is to "establish uniform requirements for recycled water use and to develop sustainable water supplies throughout the state". The SWRCB therefore "supports and encourages every region...to develop a Salt / Nutrient Management Plan by 2014". With one exception (elevated TDS concentrations near the coast due to historic seawater intrusion, now controlled through freshwater barrier injection), salts and nutrients have not been shown to be a concern in the CWCW. However, since Salt / Nutrient Management Plans are required, WRD began meeting with other stakeholders and the Regional Water Quality Control Board (RWQCB, the agency responsible for bringing stakeholders' Salt / Nutrient Management Plans to the SWRCB for approval) to initiate development of a Salt / Nutrient Management Plan for the CWCW. WRD will continue to take the lead in working with the RWQCB and stakeholders to develop a Plan for the CWCW.
- WRD will continue to use the data generated by the Regional Groundwater Monitoring Program along with WRD's advanced GIS capabilities to address current and upcoming issues related to water quality and groundwater replenishment in the Central and West Coast Basins.

SECTION 6

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TABLES

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TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Bell #1	1	102041	1750	1730	1750	Pico Formation
	2	102042	1215	1195	1215	Sunnyside
	3	102043	985	965	985	Silverado
	4	102044	635	615	635	Silverado
	5	102045	440	420	440	Hollydale
	6	102046	390	370	390	Gage
Bell Gardens #1	1	101954	1795	1775	1795	Sunnyside
	2	101955	1410	1390	1410	Sunnyside
	3	101956	1110	1090	1110	Sunnyside
	4	101957	875	855	875	Silverado
	5	101958	575	555	575	Lynwood
	6	101959	390	370	390	Gage
Carson #1	1	100030	1010	990	1010	Sunnyside
	2	100031	760	740	760	Silverado
	3	100032	480	460	480	Lynwood
	4	100033	270	250	270	Gage
Carson #2	1	101787	1250	1230	1250	Sunnyside
	2	101788	870	850	870	Silverado
	3	101789	620	600	620	Silverado
	4	101790	470	450	470	Lynwood
	5	101791	250	230	250	Gage
Carson #3	1	102075	1790	1600	1620	Not Interpreted
	2	102076	1240	1220	1240	Not Interpreted
	3	102077	1100	1080	1100	Not Interpreted
	4	102078	890	870	890	Not Interpreted
	5	102079	640	620	640	Not Interpreted
	6	102080	380	360	380	Not Interpreted
Cerritos #1	1	100870	1215	1155	1175	Sunnyside
	2	100871	1020	1000	1020	Sunnyside
	3	100872	630	610	630	Lynwood
	4	100873	290	270	290	Gage
	5	100874	200	180	200	Artesia
	6	100875	135	125	135	Artesia
Cerritos #2	1	101781	1470	1350	1370	Sunnyside
	2	101782	935	915	935	Silverado
	3	101783	760	740	760	Silverado
	4	101784	510	490	510	Jefferson
	5	101785	370	350	370	Gage
	6	101786	170	150	170	Gaspur
Chandler #3B	1	100082	363	341	363	Gage/Lynwood/Silverado
Chandler #3A	2	100083	192	165	192	Gage/Lynwood/Silverado
Commerce #1	1	100881	1390	1330	1390	Pico Formation
	2	100882	960	940	960	Sunnyside
	3	100883	780	760	780	Sunnyside
	4	100884	590	570	590	Silverado
	5	100885	345	325	345	Hollydale
	6	100886	225	205	225	Exposition/Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Compton #1	1	101809	1410	1370	1390	Sunnyside
	2	101810	1170	1150	1170	Sunnyside
	3	101811	820	800	820	Silverado
	4	101812	480	460	480	Hollydale
	5	101813	325	305	325	Gage
Compton #2	1	101948	1495	1475	1495	Sunnyside
	2	101949	850	830	850	Sunnyside
	3	101950	605	585	605	Silverado
	4	101951	400	380	400	Hollydale
	5	101952	315	295	315	Gage
	6	101953	170	150	170	Exposition
Downey #1	1	100010	1190	1170	1190	Sunnyside
	2	100011	960	940	960	Silverado
	3	100012	600	580	600	Silverado
	4	100013	390	370	390	Hollydale/Jefferson
	5	100014	270	250	270	Gage
	6	100015	110	90	110	Gaspur
Gardena #1	1	100020	990	970	990	Sunnyside
	2	100021	465	445	465	Silverado
	3	100022	365	345	365	Lynwood
	4	100023	140	120	140	Gage
Gardena #2	1	101804	1335	1275	1335	Sunnyside
	2	101805	790	770	790	Silverado
	3	101806	630	610	630	Silverado
	4	101807	360	340	360	Lynwood
	5	101808	255	235	255	Gardena
Hawthorne #1	1	100887	990	910	950	Sunnyside
	2	100888	730	710	730	Silverado
	3	100889	540	520	540	Silverado
	4	100890	420	400	420	Silverado
	5	100891	260	240	260	Lynwood
	6	100892	130	110	130	Gage
Huntington Park #1	1	100005	910	890	910	Silverado
	2	100006	710	690	710	Jefferson
	3	100007	440	420	440	Gage
	4	100008	295	275	295	Exposition
	5	100009	134	114	134	Gaspur
Inglewood #1	1	100091	1400	1380	1400	Pico Formation
	2	100092	Abandoned Well			
	3	100093	450	430	450	Silverado
	4	100094	300	280	300	Lynwood
	5	100095	170	150	170	Gage
Inglewood #2	1	100824	860	800	840	Pico Formation
	2	100825	470	450	470	Sunnyside
	3	100826	350	330	350	Silverado
	4	100827	245	225	245	Lynwood

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Lakewood #1	1	100024	1009	989	1009	Sunnyside
	2	100025	660	640	660	Silverado
	3	100026	470	450	470	Lynwood
	4	100027	300	280	300	Gage
	5	100028	160	140	160	Artesia
	6	100029	90	70	90	Bellflower
La Mirada #1	1	100876	1150	1130	1150	Sunnyside
	2	100877	985	965	985	Silverado
	3	100878	710	690	710	Lynwood
	4	100879	490	470	490	Jefferson
	5	100880	245	225	245	Gage
Lomita #1	1	100818	1340	1240	1260	Sunnyside
	2	100819	720	700	720	Sunnyside
	3	100820	570	550	570	Silverado
	4	100821	420	400	420	Silverado
	5	100822	240	220	240	Gage
	6	100823	120	100	120	Gage
Long Beach #1	1	100920	1470	1430	1450	Sunnyside
	2	100921	1250	1230	1250	Sunnyside
	3	100922	990	970	990	Silverado
	4	100923	619	599	619	Lynwood
	5	100924	420	400	420	Jefferson
	6	100925	175	155	175	Gage
Long Beach #2	1	101740	1090	970	990	Sunnyside
	2	101741	740	720	740	Sunnyside
	3	101742	470	450	470	Silverado
	4	101743	300	280	300	Lynwood
	5	101744	180	160	180	Gage
	6	101745	115	95	115	Gaspur
Long Beach #3	1	101751	1390	1350	1390	Sunnyside
	2	101752	1017	997	1017	Silverado
	3	101753	690	670	690	Silverado
	4	101754	550	530	550	Silverado
	5	101755	430	410	430	Lynwood
Long Beach #4	1	101759	1380	1200	1220	Pico Formation
	2	101760	820	800	820	Sunnyside
Long Beach #6	1	101792	1530	1490	1510	Pico Formation
	2	101793	950	930	950	Sunnyside
	3	101794	760	740	760	Sunnyside
	4	101795	500	480	500	Silverado
	5	101796	400	380	400	Lynwood
	6	101797	240	220	240	Gage
Long Beach #8	1	101819	1495	1435	1455	Pico Formation
	2	101820	1040	1020	1040	Sunnyside
	3	101821	800	780	800	Silverado
	4	101822	655	635	655	Silverado
	5	101823	435	415	435	Lynwood
	6	101824	185	165	185	Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Los Angeles #1	1	100926	1370	1350	1370	Pico Formation
	2	100927	1100	1080	1100	Sunnyside
	3	100928	940	920	940	Silverado
	4	100929	660	640	660	Lynwood
	5	100930	370	350	370	Gage
Los Angeles #2	1	102003	1370	1330	1370	Not Interpreted
	2	102004	730	710	730	Not Interpreted
	3	102005	525	505	525	Not Interpreted
	4	102006	430	410	430	Not Interpreted
	5	102007	265	245	265	Not Interpreted
	6	102008	155	135	155	Not Interpreted
Los Angeles #3	1	102069	1230	1210	1230	Not Interpreted
	2	102070	895	875	895	Not Interpreted
	3	102071	725	705	725	Not Interpreted
	4	102072	570	550	570	Not Interpreted
	5	102073	350	330	350	Not Interpreted
	6	102074	210	190	210	Not Interpreted
Montebello #1	1	101770	980	900	960	Pico Formation
	2	101771	710	690	710	Sunnyside
	3	101772	520	500	520	Silverado
	4	101773	390	370	390	Lynwood
	5	101774	230	210	230	Gage
	6	101775	110	90	110	Exposition
Norwalk #1	1	101814	1420	1400	1420	Sunnyside
	2	101815	1010	990	1010	Silverado
	3	101816	740	720	740	Lynwood
	4	101817	450	430	450	Jefferson
	5	101818	240	220	240	Gage
Norwalk #2	1	101942	1480	1460	1480	Sunnyside
	2	101943	1280	1260	1280	Sunnyside
	3	101944	980	960	980	Silverado
	4	101945	820	800	820	Lynwood
	5	101946	500	480	500	Gardena
	6	101947	256	236	256	Exposition
Pico #1	1	100001	900	860	900	Pico Formation
	2	100002	480	460	480	Silverado
	3	100003	400	380	400	Silverado
	4	100004	190	170	190	Gardena
Pico #2	1	100085	1200	1180	1200	Sunnyside
	2	100086	850	830	850	Sunnyside
	3	100087	580	560	580	Sunnyside
	4	100088	340	320	340	Silverado
	5	100089	255	235	255	Lynwood
	6	100090	120	100	120	Gaspur

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

Page 5 of 6

Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
PM-1 Columbia	1	100042	600	555	595	Sunnyside
	2	100043	505	460	500	Silverado
	3	100044	285	240	280	Lynwood
	4	100045	205	160	200	Gage
PM-3 Madrid	1	100034	685	640	680	Sunnyside
	2	100035	525	480	520	Silverado
	3	100036	285	240	280	Lynwood
	4	100037	190	145	185	Gage
PM-4 Mariner	1	100038	715	670	710	Sunnyside
	2	100039	545	500	540	Silverado
	3	100040	385	340	380	Lynwood
	4	100041	245	200	240	Lynwood
PM-5 Columbia Park	1	102047	1380	1360	1380	Pico Formation
	2	102048	960	940	960	Pico Formation
	3	102049	790	770	790	Sunnyside
	4	102050	600	580	600	Sunnyside
	5	102051	340	320	340	Silverado
	6	102052	160	140	160	Gage
PM-6 Madrona Marsh	1	102053	1235	1195	1235	Pico Formation
	2	102054	925	905	925	Sunnyside
	3	102055	790	770	790	Sunnyside
	4	102056	550	530	550	Silverado
	5	102057	410	390	410	Lynwood
	6	102058	260	240	260	Gage
Rio Hondo #1	1	100064	1150	1110	1130	Sunnyside
	2	100065	930	910	930	Sunnyside
	3	100066	730	710	730	Sunnyside
	4	100067	450	430	450	Silverado
	5	100068	300	280	300	Lynwood
	6	100069	160	140	160	Gardena
Seal Beach #1	1	102062	1390	1345	1365	Not Interpreted
	2	102063	1180	1160	1180	Not Interpreted
	3	102064	1040	1020	1040	Not Interpreted
	4	102065	795	775	795	Not Interpreted
	5	102066	625	605	625	Not Interpreted
	6	102067	235	215	235	Not Interpreted
	7	102068	70	60	70	Not Interpreted
South Gate #1	1	100893	1460	1440	1460	Pico Formation
	2	100894	1340	1320	1340	Sunnyside
	3	100895	930	910	930	Silverado
	4	100896	585	565	585	Lynwood
	5	100897	250	220	240	Exposition
Westchester #1	1	101776	860	740	760	Pico Formation
	2	101777	580	560	580	Sunnyside
	3	101778	475	455	475	Silverado
	4	101779	330	310	330	Lynwood
	5	101780	235	215	235	Gage

TABLE 1.1
CONSTRUCTION INFORMATION FOR WRD NESTED MONITORING WELLS

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Well Name	Zone	WRD ID Number	Depth of Well (feet)	Top of Perforation (feet)	Bottom of Perforation (feet)	Aquifer Designation
Whittier #1	1	101735	1298	1180	1200	Sunnyside
	2	101736	940	920	940	Sunnyside
	3	101737	620	600	620	Silverado
	4	101738	470	450	470	Lynwood
	5	101739	220	200	220	Gage
Whittier #2	1	101936	1390	1370	1390	Sunnyside
	2	101937	1110	1090	1110	Sunnyside
	3	101938	675	655	675	Silverado
	4	101939	445	425	445	Silverado
	5	101940	335	315	335	Lynwood
	6	101941	170	150	170	Gardena
Whittier Narrows #1	1	100046	769	749	769	Sunnyside
	2	100047	769	609.5	629	Sunnyside
	3	100048	769	462.5	482.5	Sunnyside
	4	100049	769	392.5	402	Silverado
	5	100050	769	334	343.5	Silverado
	6	100051	769	272.5	282.5	Lynwood
	7	100052	769	233.5	243	Jefferson
	8	100053	769	163	173	Gardena
	9	100054	769	95	104.5	Gaspur
Whittier Narrows #2	1	100055	769	659.3	678.4	Pico Formation
	2	100056	769	579.1	598.2	Pico Formation
	3	100057	769	469.0	488.2	Pico Formation
	4	100058	769	418.6	428.2	Pico Formation
	5	100059	769	328.7	338.3	Pico Formation
	6	100060	769	263.2	273.3	Not Interpreted
	7	100061	769	213.7	223.3	Not Interpreted
	8	100062	769	135.7	145.3	Not Interpreted
	9	100063	769	90.8	100.3	Gardena
Willowbrook #1	1	100016	905	885	905	Sunnyside
	2	100017	520	500	520	Silverado
	3	100018	380	360	380	Lynwood
	4	100019	220	200	220	Gage
Wilmington #1	1	100070	1040	915	935	Sunnyside
	2	100071	800	780	800	Sunnyside
	3	100072	570	550	570	Silverado
	4	100073	245	225	245	Lynwood
	5	100074	140	120	140	Gage
Wilmington #2	1	100075	1030	950	970	Sunnyside
	2	100076	775	755	775	Silverado
	3	100077	560	540	560	Lynwood
	4	100078	410	390	410	Lynwood
	5	100079	140	120	140	Gage

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Bell #1 Reference Point Elevation: 147.39						
Depth of Well	1730-1750	1195-1215	965-985	615-635	420-440	250-270
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Hollydale	Gage
10/23/2009	-17.1	-32.42	-18.18	-19.4	-12.53	16.74
12/28/2009	-12.27	-29	-13.32	-12.74	-7.62	17.69
3/29/2010	-17.08	-27.47	-6.93	-11.92	-6.65	17.55
5/4/2010	-16.86	-28.01	-11.05	-13.02	-7.51	17.59
6/29/2010	-19.47	-29.47	-13.77	-14.02	-7.97	16.25
9/26/2010	-19.89	-32.45	-16.72	-16.02	-10.59	10.86
9/27/2010	-19.76	-32.49	-16.62	-16.53	-12.03	14.8
Bell Gardens #1 Reference Point Elevation: 119.24						
Depth of Well	1775-1795	1390-1410	1090-1110	855-875	555-575	370-390
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
12/28/2009	3.43	4.43	6.3	12.22	15.98	15.95
3/29/2010	9.77	10.83	13.64	19.63	21.81	18.68
5/4/2010	10.32	12.03	14.79	20.99	22.4	19.46
6/29/2010	5.69	7.79	10.15	17.75	20.09	17.05
9/27/2010	0.8	1.19	2.99	9.9	12.42	10.98
Carson #1 Reference Point Elevation: 24.16						
Depth of Well	990-1010	740-760	460-480	250-270		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
2/17/2010	-49.57	-50.65	-16.44	-14.67		
3/11/2010	-50.78	-49.58	-16.25	-14.57		
3/24/2010	-50.17	-49.12	-16.19	-14.49		
4/12/2010	-51.74	-50.14	-15.96	-14.29		
5/19/2010	-52.76	-50.88	-15.87	-14.18		
6/22/2010	-54.67	-52.98	-16.17	-14.39		
7/23/2010	-53.49	-51.89	-16.28	-14.51		
8/18/2010	-55.09	-53.39	-16.36	-14.56		
9/21/2010	-52.16	-50.49	-15.99	-14.32		
9/27/2010	-52.19	-50.54	-15.94	-14.25		
Carson #2 Reference Point Elevation: 39.81						
Depth of Well	1230-1250	850-870	600-620	450-470	230-250	
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gage	
12/30/2009	-40.61	-35.71	-35.33	-31.47	-28.72	
3/11/2010	-39.06	-34.11	-33.65	-30.09	-27.59	
3/26/2010	-38.97	-35.17	-33.83	-30.13	-27.54	
7/1/2010	-39.44	-34.38	-34.02	-30.14	-27.43	
9/21/2010	-38.93	-34.03	-33.65	-29.88	-27.23	
Cerritos #1 Reference Point Elevation: 40.72						
Depth of Well	1155-1175	1000-1020	610-630	270-290	180-200	125-135
Aquifer Name	Sunnyside	Sunnyside	Lynwood	Gage	Artesia	Artesia
12/23/2009	-41.64	-49.71	-38.47	11.04	15.54	15.58
4/6/2010	-39.32	-50.29	-34.24	14.00	17.53	17.52
5/5/2010	-40.04	-50.51	-32.41	13.42	17.04	17.03
5/27/2010	-43.75	-53.54	-33.1	13.05	16.4	16.34
6/3/2010	-44.93	-54.09	-33.59	12.98	16.29	16.28
6/29/2010	-45.72	-53.38	-34.15	12.74	16.07	16.04
9/20/2010	-48.76	-56.92	-39.53	11.82	15.28	15.26
Cerritos #2 Reference Point Elevation: 75.27						
Depth of Well	1350-1370	915-935	740-760	490-510	350-370	150-170
Aquifer Name	Sunnyside	Silverado	Silverado	Jefferson	Gage	Gaspur
12/23/2009	-20.14	-27.37	-23.81	-4.81	20.24	28.14
4/6/2010	-15.98	-28.63	-6.26	-4.75	20.96	28.66
5/5/2010	-16.63	-31.91	-29.62	-5.57	20.48	28.66
5/18/2010	-17.93	-32.72	-28.42	-5.45	20.43	28.44
5/25/2010	-18.37	-33.54	-28.96	-5.54	20.49	28.4
5/28/2010	-18.74	-32.99	-28.97	-5.85	20.22	28.12
6/24/2010	-20.32	-34.61	-29.15	-5.77	19.98	27.94
9/23/2010	-23.37	-36.45	-34.71	-10.86	18.33	27.00

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Chandler #3 Reference Point Elevation: 153.2						
Depth of Well	341-363	165-192				
Aquifer Name	Gage/Lynw/Silv	Gage/Lynw/Silv				
12/29/2009	-17.84	-17.66				
03/29/2010	-17.04	-16.87				
04/20/2010	-17.22	-17.15				
06/30/2010	-18.16	-17.47				
07/13/2010	-17.75	-17.6				
09/09/2010	-18.94	-18.89				
09/21/2010	-18.6	-18.63				
Commerce #1 Reference Point Elevation: 170.09						
Depth of Well	1330-1390	940-960	760-780	570-590	325-345	205-225
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Hollydale	Exposition/Gage
12/29/2009		50.48	47.1	12.48	16.51	53.99
3/29/2010	54.15	55.13	51.58	15.66	18.77	54.24
5/4/2010	54.04	56.19	52.7	16.46	19.14	54
6/29/2010		55.43	51.54	13.48	15.52	53.69
8/12/2010		53.14	49.2	10.57	14.01	53.16
9/20/2010	53.49	51.57	47.64	10.51	14.11	52.92
Compton #1 Reference Point Elevation: 67.17						
Depth of Well	1370-1390	1150-1170	800-820	460-480	325-345	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	
12/29/2009	-65.73	-65.41	-23.93	-9.33	-4.81	
3/22/2010	-66.14	-65.74	-21.8	-8.03	-5.79	
6/29/2010	-69.75	-69.37	-22.18	-10.27	-8.01	
9/14/2010	-70.11	-69.76	-27.82	-14.97	-13.34	
9/23/2010	-70.38	-70.07	-27.02	-17.55	-14.71	
Compton #2 Reference Point Elevation: 75.11						
Depth of Well	1479-1495	830-850	585-605	380-400	295-315	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	Exposition
12/29/2009	-26.02	-46.72	-38.62	-37.46	-31.08	-24.44
3/26/2010	-26.75	-46.96	-39.75	-38.58	-30.58	-24.42
6/29/2010	-27.19	-49.76	-41.27	-39.93	-31.75	-25.78
7/9/2010	-27.44	-49.59	-42.15	-41.32	-35.13	-26.86
9/15/2010	-28.87	-50.82	-41.89	-40.68	-33.76	-27.06
Downey #1 Reference Point Elevation: 97.21						
Depth of Well	1479-1495	830-850	585-605	380-400	295-315	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Hollydale	Gage	Exposition
12/17/2009	-6.42	-2.39	3.35	6.36	33.62	38.16
3/29/2010	1.76	5.22	5.89	7.35	33.43	37.7
5/5/2010	1.98	5.52	5.78	7.24	33.32	37.54
7/14/2010	-2.58	1.59	2.43	4.03	32.50	37.20
9/16/2010	-7.33	-3.46	-1.48	1.11	31.44	36.73
Gardena #1 Reference Point Elevation: 82.20						
Depth of Well	970-990	445-465	345-365	120-140		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/28/2009	-57.41	-129.56	-97.42	-12.18		
1/19/2010	-57.26	-128.5	-96.72	-11.8		
3/9/2010	-57.3	-125.72	-95.76	-12.24		
3/22/2010	-57.23	-127.70	-95.83	-12.11		
6/30/2010	-56.21	-135.43	-98.85	-11.91		
7/13/2010	-56.58	-135.50	-99.21	-12.04		
9/22/2010	-57.54	-137.83	-100.9	-12.03		
Gardena #2 Reference Point Elevation: 26.74						
Depth of Well	1275-1335	770-790	610-630	340-360	235-255	
Aquifer Name	Sunnyside	Silverado	Silverado	Lynwood	Gardena	
12/30/2009	-44.69	-58.54	-58.77	-24.57	-11.28	
3/17/2010	-44.14	-57.37	-57.43	-23.91	-10.94	
6/30/2010	-43.54	-57.75	-58	-23.8	-10.57	
7/13/2010	-43.79	-58.53	-58.76	-24.21	-10.73	
9/22/2010	-44.47	-58.66	-58.9	-23.94	-10.68	

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GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Hawthorne #1 Reference Point Elevation: 86.35						
Depth of Well	910-950	710-730	520-540	400-420	240-260	110-130
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	Gage
12/29/2009	-80.93	-12.8	-11.45	-11.2	-7.13	1.11
3/30/2010	-81.48	-12.11	-10.87	-10.68	-6.66	1.52
4/21/2010	-78.82	-12.05	-10.84	-10.61	-6.65	1.87
5/6/2010	-80.3	-12.06	-10.88	-10.61	-6.68	1.8
5/10/2010	-80.65	-12.24	-11.06	-10.85	-6.84	1.64
6/30/2010	-80.68	-12.62	-11.5	-11.25	-7.05	1.81
9/26/2010	-79.15	-11.92	-10.81	-10.63	-6.6	0.53
Huntington Park #1 Reference Point Elevation: 177.08						
Depth of Well	890-910	690-710	420-440	275-295	114-134	
Aquifer Name	Silverado	Jefferson	Gage	Exposition	Gaspur	
12/29/2009	-30	-29.82	-23.57	13.71	Dry	
3/22/2010	-30.15	-30.86	-23.17	13.6	Dry	
3/29/2010	-30.71	-31.15	-23.15	13.6	Dry	
5/12/2010	-30.96	-31.62	-25.2	12.88	Dry	
6/22/2010	-31.05	-31.27	-24.52	12.77	Dry	
7/23/2010	-30.87	-31.98	-24.78	12.63	Dry	
8/19/2010	-29.9	-30.86	-24.13	12.8	Dry	
9/27/2010	-29.52	-32.14	-23.57	12.33	Dry	
Inglewood #1 Reference Point Elevation: 110.56						
Depth of Well	1380-1400		430-450	280-300	150-170	
Aquifer Name	Pico Formation	Abandoned	Silverado	Lynwood	Gage	
12/29/2009	-33.35		-44.98	0.06	5.27	
3/30/2010	-33.55		-43.61	0.63	5.27	
4/27/2010	-33.82		-43.73	0.41	5.56	
5/6/2010	-34.89		-44.01	0.35	5.52	
6/30/2010	-32.82		-44.36	0.49	5.63	
9/21/2010	-33.68		-44.11	0.87	5.78	
Inglewood #2 Reference Point Elevation: 217.33						
Depth of Well	800-840	450-470	330-350	225-245		
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood		
12/29/2009	-26.06	-17.51	-5.86	-1.5		
3/30/2010	-26.03	-17.34	-5.56	-1.22		
6/30/2010	-26.44	-17.69	-5.59	-1.22		
9/22/2010	-25.79	-17.38	-5.39	-1.04		
Lakewood #1 Reference Point Elevation: 37.91						
Depth of Well	989-1009	640-660	450-470	280-300	140-160	70-90
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage	Artesia	Bellflower
12/29/2009	-121.17	-67.98	-59.34	-29.5	-13.84	10.59
3/30/2010	-84.08	-57.65	-52.77	-30.94	-14.78	10.9
5/6/2010	-132.02	-67.04	-58.89	-30.48	-14.29	11.18
6/30/2010	-85.37	-58.14	-53.94	-28.47	-13.09	10.7
9/16/2010	-143.91	-67.23	-60.23	-34.48	-17.91	9.910
La Mirada #1 Reference Point Elevation: 75.85						
Depth of Well	1130-1150	965-985	690-710	470-490	225-245	
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage	
12/23/2009	-27.68	-25.52	-33.52	-42.5	-21.1	
2/1/2010	-24.44	-22.65	-26.75	-33.47	-17.43	
3/15/2010	-21.28	-18.53	-22.89	-35.82	-13.06	
3/30/2010	-21.51	-18.45	-39.27	-41.36	-15.82	
5/23/2010	-24.25	-20.47	-37.56	-47.23	-16.29	
5/25/2010	-24.47	-20.65	-38.45	-48.64	-16.53	
6/24/2010	-26.05	-22.42	-43.55	-55.04	-19.6	
9/10/2010	-30.54	-26.77	-40.2	-58.94	-23.98	
9/30/2010	-31.92	-28.02	-45.59	-57.37	-23.17	

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GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Lomita #1 Reference Point Elevation: 76.91						
Depth of Well	1240-1260	700-720	550-570	400-420	220-240	100-120
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Gage	Gage
12/29/2009	-32.48	-19.32	-18.23	-18.52	-16.56	-18.08
3/24/2010	-31.8	-17.53	-21.49	-19.63	-17.31	-20.25
6/30/2010	-31.6	-18.77	-17.61	-17.75	-15.95	-17.08
7/13/2010	-31.25	-19.04	-17.79	-18.01	-16.07	-17.24
9/21/2010	-32.93	-19.82	-19.43	-18.97	-16.38	-17.71
Long Beach #1 Reference Point Elevation: 28.69						
Depth of Well	1430-1450	1230-1250	970-990	599-619	400-420	155-175
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
12/23/2009	-39.61	-42.01	-78.13	-46.9	-43.26	-17.52
3/26/2010	-44.63	-47.69	-74.31	-43.67	-41.16	-13.7
5/25/2010	-46.05	-49.18	-79.41	-47.27	-43.75	-13.12
5/27/2010	-46.01	-49.16	-79.12	-47.16	-43.33	-12.83
6/29/2010	-46.54	-49.70	-81.24	-47.27	-43.25	-13.59
9/27/2010	-47.52	-50.52	-85.15	-49.75	-46.59	-16.53
Long Beach #2 Reference Point Elevation: 42.15						
Depth of Well	970-990	720-740	450-470	280-300	160-180	95-115
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Jefferson	Gage
12/28/2009	-93.14	-44.73	-38.57	-12.67	-1.43	0.95
3/29/2010	-91.24	-50.23	-43.4	-12.31	-0.84	1.36
6/29/2010	-99.96	-52.38	-43	-12.83	-0.96	1.24
9/27/2010	-98.69	-50.53	-44.73	-13.62	-1.44	0.82
Long Beach #3 Reference Point Elevation: 24.60						
Depth of Well	1350-1390	997-1017	670-690	530-550	410-430	
Aquifer Name	Sunnyside	Silverado	Silverado	Silverado	Lynwood	
12/31/2009	-38.40	-52.84	-52.84	-53.17	-2.05	
3/10/2010	-37.85	-48.54	-48.53	-48.84	-2.18	
3/26/2010	-37.73	-48.16	-48.16	-48.5	-2.15	
6/23/2010	-37.42	-52.1	-52.1	-52.54	-2.33	
9/21/2010	-37.62	-48.68	-48.66	-49.02	-1.99	
Long Beach #4 Reference Point Elevation: 9.52						
Depth of Well	1200-1220	800-820				
Aquifer Name	Pico Formation	Sunnyside				
10/25/2007	-35.73	-18.82				
12/27/2007	-35.23	-17.52				
03/19/2008	-34.46	-16.11				
09/17/2008	-34.47	-15.11				
Long Beach #6 Reference Point Elevation: 32.53						
Depth of Well	1490-1510	930-950	740-760	480-500	380-400	220-240
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
12/31/2009	-50.83	-69.81	-71.37	-119.75	-119.8	-40.24
3/26/2010	-58.18	-76.93	-77.72	-116.42	-116.55	-39.76
5/11/2010	-60.02	-78.27	-79.44	-121.91	-121.93	-41.25
5/27/2010	-60.75	-78.87	-79.97	-117.84	-117.59	-41.62
6/22/2010	-61.21	-79.6	-80.77	-123.63	-123.66	-41.74
7/26/2010	-62.28	-79.94	-80.96	-117.59	-117.68	-42.2
8/18/2010	-61.95	-77.66	-78.66	-116.89	-117	-42.26
9/20/2010	-62.22	-78.47	-79.57	-124.74	-124.77	-42.02
Long Beach #8 Reference Point Elevation: 17.78						
Depth of Well	1435-1455	1020-1040	780-800	635-655	415-435	165-185
Aquifer Name	Pico Formation	Sunnyside	Silverado	Silverado	Lynwood	Gage
11/4/2009	-17.81	-35.89	-49.19	-46.82	-46.39	1.6
1/5/2010	-18.12	-36.18	-49.65	-47.21	-46.78	1.57
3/26/2010	-18.33	-35.95	-45.9	-43.67	-43.28	1.66
6/23/2010	-18.41	-35.55	-48.37	-45.96	-45.52	1.79
9/15/2010	-18.37	-35.87	-45.51	-43.34	-43	1.77

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GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010
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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Los Angeles #1 Reference Point Elevation: 173.63						
Depth of Well	1350-1370	1080-1100	920-940	640-660	350-370	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	
12/31/2009	-26.11	-24.45	-25.77	-28.5	-21.25	
3/29/2010	-25.79	-23.96	-25.26	-27.44	-20.48	
6/30/2010	-26.16	-24.15	-25.49	-27.93	-21.21	
9/24/2010	-26.3	-23.57	-24.6	-26.44	-20.24	
Los Angeles #2 Reference Point Elevation: 218.59						
Depth of Well	1330-1370	710-730	505-525	410-430	245-265	135-155
Aquifer Name	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted
12/29/2009	48.25	0.94	0.58	-16.39	-25.39	Dry
3/29/2010	48.92	-0.44	-0.88	-16.85	-25.2	Dry
Montebello #1 Reference Point Elevation: 192.60						
Depth of Well	960-980	690-710	500-520	370-390	210-230	90-110
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	Exposition
12/31/2009	81.09	78.52	78.02	74.83	70.66	Dry
3/30/2010	106.66	95.83	95.23	90.64	81.12	Dry
6/23/2010	95.31	92.73	92	87.87	85.37	Dry
9/20/2010	86.68	80.59	79.83	76.35	78.85	Dry
Norwalk #1 Reference Point Elevation: 95.44						
Depth of Well	1400-1420	990-1010	720-740	430-450	220-240	
Aquifer Name	Sunnyside	Silverado	Lynwood	Jefferson	Gage	
11/3/2009	22.19	-18.6	2.42	-1.96	-1.9	
12/23/2009	24.24	-15.65	4.96	-0.78	-0.82	
3/30/2010	29.4	-11.67	10.32	0.33	0.41	
5/5/2010	30.16	-12.52	10.3	-0.45	0.15	
6/24/2010	28.29	-14.28	8.39	-2.67	-1.21	
9/30/2010	24.24	-19.6	3.41	-4.45	-3.01	
Norwalk #2 Reference Point Elevation: 107.4						
Depth of Well	1460-1480	1260-1280	960-980	800-820	480-500	236-256
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena	Exposition
12/23/2009	5.1	5.21	2.09	4.57	16.47	23.25
3/30/2010	10.7	10.78	10.29	13.39	18.22	24.95
5/5/2010	11.43	11.44	10.43	13.78	18.33	25.18
6/24/2010	9.99	10.08	6.93	9.91	16.25	23.95
9/29/2010	5.35	5.44	-1.1	1.78	10.72	19.86
Pico #1 Reference Point Elevation: 181.06						
Depth of Well	860-900	460-480	380-400	170-190		
Aquifer Name	Pico Formation	Silverado	Silverado	Gardena		
12/29/2009	126.52	98.45	97.05	106.33		
3/30/2010	140.82	134.51	134.27	133.01		
4/26/2010	143.07	124.43	123.31	133.01		
6/29/2010	140.49	120.91	122.02	126.57		
9/28/2010	129.82	104.72	102.02	109.16		
Pico #2 Reference Point Elevation: 149.6						
Depth of Well	1180-1200	830-850	560-580	320-340	235-255	100-120
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gaspur
10/21/2009	54.57	51.79	56.75	69.82	69.4	78.09
12/16/2009	59.6	60.16	61.91	70.19	69.82	76.13
3/30/2010	81.75	80.89	87.23	90.98	90.52	94.78
5/6/2010	82.88	82.22	89.2	92.83	93.6	101.89
6/15/2010	76.87	75.26	81.83	91.67	92.51	96.51
9/23/2010	59.81	58.09	63.78	80.79	82.02	88.81

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
PM-3 Madrid Reference Point Elevation: 70.68						
Depth of Well	640-680	480-520	240-280	145-185		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/28/2009	-12.34	-9.25	-9.19	-9.2		
2/17/2010	-11.89	-8.94	-8.88	-8.81		
3/22/2010	-11.74	-8.75	-8.75	-8.69		
6/30/2010	-11.69	-8.71	-8.65	-8.62		
9/22/2010	-11.29	-8.42	-8.32	-8.36		
PM-4 Mariner Reference Point Elevation: 97.7						
Depth of Well	670-710	500-540	340-380	200-240		
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood		
12/28/2009	-6.81	-3.81	-0.74	-0.72		
2/17/2010	-6.43	-4.28	-1.16	-1.12		
3/28/2010	-6.32	-3.41	-0.34	-0.25		
4/13/2010	-6.11	-3.46	-0.3	-0.26		
5/19/2010	-6.19	-3.65	-0.5	-0.45		
6/22/2010	-6.38	-4.55	-1.38	-1.34		
7/23/2010	-6.62	-4.61	-1.49	-1.43		
8/19/2010	-6.58	-4.5	-1.36	-1.31		
9/17/2010	-6.05	-3.58	-0.4	-0.34		
PM-5 Columbia Park Reference Point Elevation: 76.72						
Depth of Well	1195-1235	905-925	770-790	530-550	390-410	240-260
Aquifer Name	Pico Formation	Pico Formation	Sunnyside	Sunnyside	Silverado	Gage
12/28/2009	-37.79	-47.34	-9.6	-7.07	-0.98	-0.62
1/25/2010	-37.68	-47.01	-9.29	-6.98	-1.13	-0.84
2/16/2010	-37.71	-46.69	-9.26	-6.83	-1.14	-0.76
3/3/2010	-37.7	-46.57	-9.24	-6.91	-1.15	-0.76
3/10/2010	-37.77	-46.57	-9.17	-6.79	-1.07	-0.74
3/29/2010	-37.71	-46.45	-9.11	-6.55	-0.43	-0.13
6/30/2010	-37.12	-45.29	-8.99	-6.73	-1.53	-1.14
9/22/2010	-37.17	-47.24	-8.14	-6.03	-0.76	-0.42
PM-6 Madrona Marsh Reference Point Elevation: 79						
Depth of Well	1195-1235	905-925	770-790	530-550	390-410	240-260
Aquifer Name	Pico Formation	Sunnyside	Sunnyside	Silverado	Lynwood	Gage
12/28/2009	-37.9	-14.04	-12.34	-5.04	-3.84	-3.35
3/29/2010	-37.02	-13.19	-11.69	-4.24	-2.83	-2.43
6/30/2010	-36.57	-13.2	-11.75	-4.7	-3.16	-2.8
8/6/2010	-37.5	-13.47	-11.85	-4.65	-3.35	-2.86
9/22/2010	-37.2	-13.17	-11.64	-4.13	-2.9	-2.44
Rio Hondo #1 Reference Point Elevation: 144.36						
Depth of Well	1110-1130	910-930	710-730	430-450	280-300	140-160
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Lynwood	Gardena
12/17/2009	55.95	55.49	54.79	45.48	50.06	51.73
3/29/2010	72.95	74.68	73.87	64.31	72.5	74.39
5/4/2010	75.38	76.6	75.56	68.36	78.23	80.6
5/20/2010	74.12	74.05	73.08	66.44	75.08	77.29
6/7/2010	71.59	69.88	69.03	61.15	71.07	73.6
6/9/2010	71.48	69.8	68.93	60.68	70.72	73.27
6/16/2010	70.42	68.16	67.24	59.96	69.44	71.95
7/22/2010	64.84	62.77	61.92	52.13	62.49	65.42
8/19/2010	61.91	57.83	56.98	47.79	57.72	60.75
9/23/2010	57.49	53.54	52.21	44.55	53.34	56.37
9/27/2010	56.92	50.95	50.01	42.85	52.51	55.7

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TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Seal Beach #1 Reference Point Elevation: 7						
Depth of Well	1345-1365	1160-1180	1020-1040	775-795	605-625	215-235
Aquifer Name	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted	Not Interpreted
6/24/2010	-45.04	-45.23	-45.12	-70.64	-50.1	-13.07
7/27/2010	-45.93	-46.13	-46.01	-72.01	-51.63	-13.84
9/8/2010	-46.02	-46.2	-46.09	-76.11	-51.93	-15.02
9/10/2010	-46.11	-46.29	-46.17	-76.2	-52.07	-15.02
9/20/2010	-46.27	-46.44	-46.34	-75.22	-52.31	-13.93
ZONE 7						
Depth of Well	60-70					
Aquifer Name	Not Interpreted					
6/24/2010	-4.28					
7/27/2010	-4.79					
9/8/2010	-5.81					
9/10/2010	-5.74					
9/20/2010	-5.3					
South Gate #1 Reference Point Elevation: 90.96						
Depth of Well	1440-1460	1320-1340	910-930	565-585	220-240	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Exposition	
10/19/2009	-20.73	-17.83	-11.96	-12.02	29.81	
1/5/2010	-15.51	-12.34	-5.84	-9.09	29.89	
3/30/2010	-11.11	-7.97	-2.72	-9.25	29.61	
5/5/2010	-10.99	-7.9	-2.45	-10.65	29.51	
5/14/2010	-11.11	-8.09	-3.41	-11.06	29.39	
6/29/2010	-13.28	-10.07	-5.26	-13.6	29.08	
7/8/2010	-13.77	-10.59	-7.46	-12.62	28.89	
Westchester #1 Reference Point Elevation: 124.27						
Depth of Well	740-760	560-580	455-475	310-330	215-235	
Aquifer Name	Pico Formation	Sunnyside	Silverado	Lynwood	Gage	
12/29/2009	1.81	8.66	8.85	8.89	8.93	
3/25/2010	2.22	8.83	9.02	9.07	9.15	
6/30/2010	2.22	8.91	9.18	9.18	9.21	
9/22/2010	2.11	8.86	9.05	9.02	9.07	
Whittier #1 Reference Point Elevation: 217.17						
Depth of Well	1180-1200	920-940	600-620	450-470	200-220	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
12/29/2009	119.59	119.59	111.11	108.84	198.41	
3/30/2010	119.39	119.37	111.8	109.84	199.91	
6/24/2010	119.06	119.02	111.69	109.88	199.46	
9/28/2010	118.82	118.77	111.14	109.06	199.02	
Whittier #2 Reference Point Elevation: 165.17						
Depth of Well	1370-1390	1090-1110	655-675	425-445	315-335	150-170
Aquifer Name	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood	Gardena
12/31/2009	81.44	82.1	72.96	74.77	91.08	98.25
3/30/2010	92.98	93.39	90.41	91.37	103.82	107.2
4/26/2010	94.96	95.27	93.62	94.64	107.37	109.92
6/15/2010	93.77	93.97	90.13	87.97	102.44	108.58
9/29/2010	84.98	85.24	66.82	66	93.39	103.45
Willowbrook #1 Reference Point Elevation: 96.21						
Depth of Well	885-905	500-520	360-380	200-220		
Aquifer Name	Sunnyside	Silverado	Lynwood	Gage		
12/30/2009	-52.77	-37.12	-40.79	-40.33		
3/16/2010	-52.14	-37.27	-40.53	-39.92		
3/17/2010	-52.12	-37.23	-40.31	-39.77		
5/28/2010	-53.19	-37.99	-41.83	-41.05		
6/22/2010	-53.69	-38.39	-42.29	-41.53		
7/23/2010	-54.09	-38.74	-43.21	-42.21		
8/18/2010	-54.36	-38.85	-44.28	-42.51		
9/17/2010	-54.63	-39.09	-43.82	-43.06		
... 9/22/2010	-53.61	-38.68	-43.31	-42.62		

TABLE 2.1
GROUNDWATER ELEVATIONS, WATER YEAR 2009-2010

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	ZONE 1	ZONE 2	ZONE 3	ZONE 4	ZONE 5	ZONE 6
Wilmington #1 Reference Point Elevation: 37.96						
Depth of Well	915-935	780-800	550-570	225-245	120-140	
Aquifer Name	Sunnyside	Sunnyside	Silverado	Lynwood	Gage	
12/29/2009	-50.57	-51.16	-51.01	-17.82	-14.26	
3/24/2010	-46.73	-47.35	-47.26	-17.41	-14.03	
5/11/2010	-47.78	-48.35	-48.32	-16.84	-13.45	
6/7/2010	-48.69	-49.22	-49.18	-17.2	-13.72	
6/30/2010	-49.19	-49.73	-49.66	-17.14	-13.66	
7/13/2010	-49.21	-49.77	-49.75	-17.2	-13.67	
8/18/2010	-49.61	-49.54	-50.1	-17.49	-13.95	
9/21/2010	-45.55	-46.08	-46.06	-16.57	-13.25	
Wilmington #2 Reference Point Elevation: 29.78						
Depth of Well	950-970	755-775	540-560	390-410	120-140	
Aquifer Name	Sunnyside	Silverado	Lynwood	Lynwood	Gage	
12/29/2009	-36.4	-31.44	-26.48	-25.53	-6.5	
3/24/2010	-34.4	-29.98	-25.3	-24.4	-6.38	
6/29/2010	-34.88	-29.73	-24.95	-23.95	-5.89	
8/10/2010	-35.81	-30.86	-25.77	-24.78	-5.97	
8/17/2010	-35.72	-30.77	-25.64	-24.65	-5.89	
9/21/2010	-33.43	-29.18	-24.55	-23.62	-6	
Whittier Narrows #1 Reference Point Elevation: 215.14						
Depth of Well	749-769	609.5-629	462.5-482.5	392.5-402	334-343.5	272.5-282.5
Aquifer Name	Sunnyside	Sunnyside	Sunnyside	Silverado	Silverado	Lynwood
3/17/2010	178.24	179.51	181.72	185.78	186.67	187.99
9/8/2010	172.38	174.06	176.25	180.08	181.01	182.15
	ZONE 7	ZONE 8	ZONE 9			
Depth of Well	233.5-243	163-173	95-104.5			
Aquifer Name	Jefferson	Gardena	Gaspur			
3/17/2010	187.95	187.99	189.5			
9/8/2010	182.13	182.06	183.62			
Whittier Narrows #2 Reference Point Elevation: 209.08						
Depth of Well	659-678	579-598	469-488	419-428	329-338	263-273
Aquifer Name	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Pico Formation	Not Defined
3/17/2010	-11.93	-11.79	-10.77	-2.47	112.8	167.27
9/9/2010	-12.95	-12.76	-12.81	-5.98	103.68	157.55
	ZONE 7	ZONE 8	ZONE 9			
Depth of Well	214-224	136-145	91-100			
Aquifer Name	Not Defined	Not Defined	Gardena			
3/17/2010	168.37	168.96	173.17			
9/9/2010	158.53	160.17	166.78			

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Bell #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/20/2010	9/26/2010	5/20/2010	9/26/2010	5/20/2010	9/26/2010	5/20/2010	9/26/2010	5/20/2010	9/26/2010	5/20/2010	9/26/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	1010	990	350	320	310	310	350	350	450	440	650	660
Cation Sum	meq/l			16	16	5.9	5.8	5.4	5.1	6.2	6	7.8	7.3	11	12
Anion Sum	meq/l			17	17	5.6	5.6	5.2	5.2	5.9	5.8	7.4	7.3	11	11
Iron	mg/l	0.3	S	0.12	0.13	0.028	0.024	ND	ND	0.021	0.021	ND	ND	ND	ND
Manganese	ug/l	50	S	23	22	71	78	48	50	70	74	ND	ND	ND	ND
Turbidity	NTU	5	S	0.54	0.43	0.14	0.44	0.1	0.31	0.2	0.29	0.28	0.45	1.4	11
Alkalinity	mg/l			640	630	170	170	160	160	180	180	180	180	250	250
Boron	mg/l	1	N	1.6	1.6	0.15	0.15	0.14	0.13	0.16	0.16	0.16	0.14	0.17	0.16
Bicarbonate	mg/l			780	770	210	200	200	190	220	220	220	220	300	300
Calcium	mg/l			12	12	54	52	48	44	59	57	78	72	120	130
Carbonate as CO3	mg/l			11	13	2.2	2.4	ND	2	ND	2.4	ND	2.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			54	53	180	180	160	150	200	200	270	250	440	450
Chloride	mg/l	500	S	140	140	20	22	26	28	26	26	48	49	110	110
Fluoride	mg/l	2	P	0.43	0.38	0.23	0.19	0.41	0.37	0.42	0.38	0.34	0.29	0.37	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.85	0.92	0.82	0.84	0.66	0.69	0.73	0.89	0.8	0.95	0.95	1.1
Magnesium, Total, ICAP	None			5.6	5.5	11	11	11	10	14	14	19	18	32	33
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.5	1.4	2.6	2.6
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			5.3	5.4	2.8	3	3.4	3.4	3.3	3.4	2.9	2.8	2.9	3.1
Sodium	mg/l			340	340	51	50	47	45	46	44	52	48	60	61
Sulfate	mg/l	500	S	ND	ND	77	78	56	58	73	74	110	110	140	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.5	1.4	2.6	2.6
Total Organic Carbon	mg/l			17	17	0.43	0.38	0.57	0.47	0.47	0.35	ND	ND	0.37	0.43
Carbon Dioxide	mg/l			6.1	5	2.1	ND	2.4	ND	3.1	2	3.5	2.2	7.5	4.9
General Physical Properties															
Apparent Color	ACU	15	S	140	350	ND	5	ND	5	ND	ND	ND	ND	ND	5
Lab pH	Units			8.3	8.4	8.2	8.3	8.1	8.2	8.1	8.2	8	8.2	7.8	8
Odor	TON	3	S	8	2	2	ND	2	ND	1	ND	2	ND	2	1
pH of CaCO3 saturation(25C)	Units			7.5	7.5	7.4	7.4	7.5	7.5	7.3	7.4	7.2	7.3	6.9	6.9
pH of CaCO3 saturation(60C)	Units			7	7	7	7	7	7.1	6.9	6.9	6.8	6.8	6.4	6.4
Specific Conductance	umho/cm	1600	S	1600	1600	550	550	520	510	570	570	730	710	1100	1100
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.8	ND	ND	ND	ND	ND	1.4	1.3	3.8	3.6	2.2	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	13	13	36	34	35	33	62	59	230	230	120	120
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	4.8	1.1	ND	ND	1.1	ND	ND	ND	1.9	ND	6.7	4.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	4.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	6	ND	ND	ND	ND	ND	ND	ND	8.8	11	5.6	5.4
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.62	0.78	6.1	8
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	2.1	1.7	3.4	4

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Bell Gardens #1					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				5/3/2010	5/3/2010	5/3/2010	5/3/2010	5/3/2010	5/3/2010
General Mineral Characteristics									
Total Dissolved Solids (TDS)	mg/l	1000	S	480	270	460	360	350	370
Cation Sum	meq/l			7.3	4.9	7.2	5.6	5.7	6.1
Anion Sum	meq/l			7.3	4.9	7.2	5.6	5.7	6
Iron	mg/l	0.3	S	0.04	0.026	ND	ND	ND	ND
Manganese	ug/l	50	S	42	53	ND	ND	ND	ND
Turbidity	NTU	5	S	0.16	0.12	0.076	0.12	0.055	0.58
Alkalinity	mg/l			170	160	150	130	150	160
Boron	mg/l	1	N	0.064	0.14	0.18	0.17	0.18	0.17
Bicarbonate	mg/l			210	200	180	160	180	190
Calcium	mg/l			97	40	76	53	55	61
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			300	130	240	170	180	200
Chloride	mg/l	500	S	50	31	63	43	40	39
Fluoride	mg/l	2	P	0.17	0.26	0.29	0.37	0.21	0.32
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.83	0.52	0.6	0.37	0.3	0.48
Magnesium, Total, ICAP	None			14	7.7	13	9.7	11	12
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	2.4	1.7	2	1.7
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.1	2.4	3.3	3.1	2.9	3.2
Sodium	mg/l			30	51	52	48	45	45
Sulfate	mg/l	500	S	120	38	110	81	70	79
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	2.4	1.7	2	1.7
Total Organic Carbon	mg/l			ND	0.38	0.41	0.32	ND	ND
Carbon Dioxide	mg/l			3.6	2.8	3.8	3.2	5.2	4.3
General Physical Properties									
Apparent Color	ACU	15	S	3	3	ND	ND	ND	ND
Lab pH	Units			8	8.1	7.9	7.9	7.8	7.9
Odor	TON	3	S	2	2	1	1	1	1
pH of CaCO3 saturation(25C)	Units			7.1	7.5	7.3	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			6.7	7.1	6.9	7.1	7	6.9
Specific Conductance	umho/cm	1600	S	700	480	720	570	570	600
Metals									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.2	ND	2.9	2.5	1.3	2
Barium, Total, ICAP/MS	ug/l	1000	P	95	59	120	46	53	50
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.6	1.5	1.4	1.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	0.66	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	2.4	0.76
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.56	1.8
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	0.54
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.51	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Cerritos #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/5/2010	9/8/2010	4/5/2010	9/8/2010	4/5/2010	9/8/2010	4/5/2010	9/8/2010	4/5/2010	9/8/2010	4/5/2010	9/8/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	270	260	250	250	300	290	280	290	260	260	260	260
Cation Sum	meq/l			4.8	5	4.5	4.6	5.2	5.4	5	5.1	4.7	4.9	4.7	4.9
Anion Sum	meq/l			4.6	4.8	4.4	4.5	5.1	5.2	4.9	4.9	4.5	4.5	4.8	4.7
Iron	mg/l	0.3	S	ND	ND	ND	ND	0.025	0.027	0.083	0.082	0.059	0.063	0.073	0.074
Manganese	ug/l	50	S	26	27	30	31	45	44	77	79	110	110	140	140
Turbidity	NTU	5	S	0.27	0.14	0.082	0.1	0.074	0.092	0.28	0.2	0.13	0.19	0.052	0.66
Alkalinity	mg/l			190	170	160	160	170	170	180	180	180	180	160	190
Boron	mg/l	1	N	0.095	0.1	0.08	0.076	0.11	0.1	0.1	0.096	0.1	0.1	0.089	0.09
Bicarbonate	mg/l			230	200	190	190	210	210	220	220	220	220	200	240
Calcium	mg/l			36	37	34	34	42	44	47	48	40	42	47	48
Carbonate as CO3	mg/l			2.1	3	2.4	2.5	3.2	2.3	ND	2	ND	2.2	3	2.2
Hardness (Total, as CaCO3)	mg/l			110	110	110	110	130	140	160	170	140	150	160	160
Chloride	mg/l	500	S	9.9	15	13	13	19	19	13	13	10	9.9	15	9.6
Fluoride	mg/l	2	P	0.27	0.23	0.4	0.34	0.42	0.37	0.57	0.5	0.51	0.44	0.34	0.29
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.62	0.78	0.65	0.68	0.88	0.75	0.6	0.73	0.64	0.7	0.9	0.77
Magnesium, Total, ICAP	None			4.8	5.1	5.4	5.5	6.2	6.4	11	11	9.8	10	9.4	9.7
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.2	2.3	2.2	2.2	2	2.1	2	2	1.9	2.1	2.1	2.1
Sodium	mg/l			60	62	53	55	59	61	38	39	42	44	35	36
Sulfate	mg/l	500	S	24	50	41	44	57	58	42	41	28	29	50	25
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.48	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.33
Carbon Dioxide	mg/l			2.8	ND	ND	ND	ND	2	3.4	2.6	2.6	2.4	ND	2.7
General Physical Properties															
Apparent Color	ACU	15	S	3	ND	ND	ND	ND	ND	ND	ND	3	3	ND	5
Lab pH	Units			8.1	8.4	8.3	8.3	8.4	8.2	8	8.2	8.1	8.2	8.4	8.2
Odor	TON	3	S	2	ND	3	ND	2	ND	2	1	2	ND	2	ND
pH of CaCO3 saturation(25C)	Units			7.5	7.6	7.6	7.6	7.5	7.5	7.4	7.4	7.5	7.5	7.5	7.4
pH of CaCO3 saturation(60C)	Units			7.1	7.1	7.2	7.2	7.1	7	7	7	7.1	7	7	6.9
Specific Conductance	umho/cm	1600	S	450	460	430	430	500	500	470	460	440	430	470	430
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	14	15	11	11	19	20	5.1	5.4	8.8	8.5	34	35
Barium, Total, ICAP/MS	ug/l	1000	P	48	51	100	110	130	130	62	64	82	81	100	100
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Cerritos #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/6/2010	9/8/2010	4/6/2010	9/8/2010	4/6/2010	9/8/2010	4/6/2010	9/8/2010	4/6/2010	9/8/2010	4/6/2010	9/8/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	200	200	480	510	210	200	220	230	230	210	960	1100
Cation Sum	meq/l			3.8	3.8	8.3	8.4	3.8	3.9	4.3	4.4	4.3	4.5	18	18
Anion Sum	meq/l			3.7	3.7	8.1	8.3	3.7	3.8	4.2	4.2	4.1	4.2	17	18
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.031	0.031	0.089	0.089	0.28	0.29
Manganese	ug/l	50	S	12	11	ND	ND	40	40	85	86	100	110	790	840
Turbidity	NTU	5	S	0.1	0.1	0.086	0.053	1.1	1.1	0.097	0.13	0.21	0.25	1.6	1.8
Alkalinity	mg/l			150	150	180	180	160	160	180	180	180	180	350	350
Boron	mg/l	1	N	0.063	0.061	0.15	0.15	0.073	0.072	0.085	0.082	0.084	0.082	0.12	0.11
Bicarbonate	mg/l			190	190	210	210	200	200	220	220	220	220	430	430
Calcium	mg/l			44	43	96	96	45	46	53	53	54	55	230	240
Carbonate as CO3	mg/l			ND	ND	ND	ND	2	2.5	2.1	2.4	2.2	2.5	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	130	310	320	140	140	170	170	160	170	760	780
Chloride	mg/l	500	S	5.7	5.9	72	74	5.2	5.4	5.9	5.9	5.7	5.7	180	190
Fluoride	mg/l	2	P	0.29	0.25	0.38	0.33	0.35	0.27	0.44	0.38	0.36	0.31	0.31	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.63	0.67	0.83	0.91	0.7	0.81	0.79	0.86	0.81	0.88	1.4	1.4
Magnesium, Total, ICAP	None			5.6	5.7	18	18	6	6.2	8.5	8.7	7.5	7.8	45	46
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	3.2	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.7	2.8	4.2	4.2	2.4	2.5	2.6	2.6	2.8	2.9	4.5	4.5
Sodium	mg/l			24	25	45	46	23	23	21	21	22	23	57	57
Sulfate	mg/l	500	S	19	20	110	110	16	17	17	17	16	16	220	250
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.051
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	3.2	3.3	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	0.33	0.72	ND	ND	ND	ND	ND	ND	1.4	1.4
Carbon Dioxide	mg/l			2.1	ND	3.8	3.2	2	ND	2.5	2.1	2.4	2.1	10	10
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	5
Lab pH	Units			8.2	8.2	8	8	8.2	8.3	8.2	8.2	8.2	8.2	7.9	7.9
Odor	TON	3	S	2	ND	2	ND	2	1	2	1	2	1	2	1
pH of CaCO3 saturation(25C)	Units			7.5	7.5	7.1	7.1	7.5	7.5	7.4	7.4	7.4	7.4	6.5	6.4
pH of CaCO3 saturation(60C)	Units			7.1	7.1	6.7	6.7	7.1	7	6.9	6.9	6.9	6.9	6	6
Specific Conductance	umho/cm	1600	S	360	340	820	800	360	350	400	390	400	390	1600	1600
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.3	2.3	2.2	2.1	3	7.3	8	16	17	7.5	8.3	
Barium, Total, ICAP/MS	ug/l	1000	P	110	110	160	160	120	120	160	170	170	180	120	110
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	2	1.3	ND	ND	ND	ND	ND	ND	1.8	1.1
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	0.96	1	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Commerce #1										
				Zone 1	Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				8/12/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010
General Mineral Characteristics														
Total Dissolved Solids (TDS)	mg/l	1000	S	13000	640	890	600	530	520	510	470	480	390	400
Cation Sum	meq/l			220	11	16	10	9.5	8.6	8.6	7.9	8.2	6.5	6.8
Anion Sum	meq/l			250	11	16	10	9.5	8.9	8.6	8	8.3	6.7	6.8
Iron	mg/l	0.3	S	1.2	0.036	0.043	0.051	0.04	0.038	0.04	ND	ND	ND	ND
Manganese	ug/l	50	S	160	ND	12	48	47	63	62	ND	ND	ND	ND
Turbidity	NTU	5	S	63	0.41	3.9	0.2	0.22	0.089	0.22	0.29	0.46	0.98	1.8
Alkalinity	mg/l			470	320	320	240	230	200	200	190	190	170	170
Boron	mg/l	1	N	6.7	0.53	0.67	0.28	0.26	0.24	0.26	0.17	0.17	0.14	0.13
Bicarbonate	mg/l			570	390	390	290	280	250	250	230	230	210	210
Calcium	mg/l			180	49	53	61	60	49	49	78	79	59	61
Carbonate as CO3	mg/l			ND	2.8	2.7	2	2.2	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1100	220	240	240	240	200	200	280	290	220	230
Chloride	mg/l	500	S	8700	170	340	180	140	92	88	74	81	64	65
Fluoride	mg/l	2	P	0.14	0.37	0.34	0.34	0.32	0.43	0.41	0.34	0.3	0.45	0.44
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	0.87	0.9	0.83	0.87	0.64	0.68	0.69	0.71	0.52	0.55
Magnesium, Total, ICAP	None			150	23	26	21	21	19	20	21	22	18	19
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	4.2	4.2	6.6	6.7
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			49	5.6	6.4	3.6	3.5	3.3	3.3	2.2	2.4	1.7	1.8
Sodium	mg/l			4600	150	240	120	110	100	100	51	56	46	47
Sulfate	mg/l	500	S	0.55	9.2	9.3	32	41	100	99	90	91	48	49
Surfactants	mg/l	0.5	S	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	4.2	4.2	6.6	6.7
Total Organic Carbon	mg/l			16	4	4.9	1.3	1.2	0.69	0.79	ND	0.31	ND	
Carbon Dioxide	mg/l			26	5.8	5.9	4.3	3.7	4.1	3.7	4.8	4.7	4.6	4.4
General Physical Properties														
Apparent Color	ACU	15	S	50	35	20	5	3	3	3	ND	ND	ND	ND
Lab pH	Units			7.6	8	8	8	8.1	8	8	7.9	7.9	7.9	7.9
Odor	TON	3	S	3	40	40	1	1	2	2	1	1	1	ND
pH of CaCO3 saturation(25C)	Units			6.4	7.2	7.1	7.2	7.2	7.4	7.4	7.2	7.2	7.4	7.3
pH of CaCO3 saturation(60C)	Units			6	6.7	6.7	6.8	6.8	6.9	6.9	6.8	6.7	6.9	6.9
Specific Conductance	umho/cm	1600	S	23000	1100	1700	1000	980	840	870	770	820	670	700
Metals														
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	32	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	660	64	85	110	91	240	240	85	86	56	59
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	25	ND	3.1	3.4	1.2	2.1	ND	6.3	5.3	11	11
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds														
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	2.3	1.7	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	0.66	0.75	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	2.2	3	2.7	2.1

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Compton #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/20/2010	9/14/2010	4/20/2010	9/14/2010	4/20/2010	9/14/2010	4/20/2010	9/14/2010
General Mineral Characteristics											
Total Dissolved Solids (TDS)	mg/l	1000	S	230	240	300	280	310	300	330	320
Cation Sum	meq/l			3.9	3.8	4.6	4.7	5.1	5.1	5.4	5.5
Anion Sum	meq/l			4	4	4.8	4.8	5.1	5.2	5.5	5.5
Iron	mg/l	0.3	S	ND	ND	ND	ND	0.025	0.027	0.071	0.071
Manganese	ug/l	50	S	15	13	18	18	60	59	85	79
Turbidity	NTU	5	S	0.21	0.42	0.15	0.29	0.6	0.52	0.71	0.6
Alkalinity	mg/l			180	180	150	150	160	160	170	170
Boron	mg/l	1	N	0.15	0.15	0.11	0.11	0.12	0.11	0.097	0.1
Bicarbonate	mg/l			220	210	180	180	200	200	210	210
Calcium	mg/l			20	20	39	40	49	49	59	60
Carbonate as CO3	mg/l			3.1	3.3	2	2.2	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			57	56	110	110	160	160	170	180
Chloride	mg/l	500	S	14	14	22	23	23	25	21	21
Fluoride	mg/l	2	P	0.31	0.28	0.34	0.33	0.27	0.25	0.26	0.25
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.53	0.56	0.64	0.69	0.67	0.71	0.72	0.77
Magnesium, Total, ICAP	None			1.8	1.7	3.3	3.4	9.1	8.9	6	6.2
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			1.5	1.5	1.6	1.6	2.7	2.6	2.4	2.5
Sodium	mg/l			62	61	55	55	43	42	44	44
Sulfate	mg/l	500	S	1.3	1.5	59	60	58	60	72	74
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	3.3	0.71	0.72	0.46	0.62	ND	ND
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.4	2.2	2.8	2.6
General Physical Properties											
Apparent Color	ACU	15	S	20	35	5	10	3	5	ND	3
Lab pH	Units			8.3	8.4	8.3	8.3	8.1	8.2	8.1	8.1
Odor	TON	3	S	4	3	2	2	2	3	3	3
pH of CaCO3 saturation(25C)	Units			7.8	7.8	7.6	7.6	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.2	7.2	7	7	6.9	6.9
Specific Conductance	umho/cm	1600	S	370	380	470	480	500	510	540	540
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	21	21
Barium, Total, ICAP/MS	ug/l	1000	P	11	9.2	13	12	60	59	160	160
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Compton #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/22/2010	9/15/2010	4/22/2010	9/15/2010	4/22/2010	9/15/2010	4/22/2010	9/15/2010	4/22/2010	9/15/2010	4/22/2010	9/15/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	570	570	330	320	310	300	360	370	360	390	440	450
Cation Sum	meq/l			9.3	10	6.1	6	5.1	5.1	6.2	6.1	6.6	6.3	7.6	7.5
Anion Sum	meq/l			10	9.9	6.1	6.1	5.1	5	6	6.1	6.4	6.5	7.4	7.4
Iron	mg/l	0.3	S	0.044	0.048	0.026	0.033	ND	ND	0.029	0.027	ND	0.026	ND	ND
Manganese	ug/l	50	S	ND	12	32	32	34	35	43	43	100	110	25	47
Turbidity	NTU	5	S	1.2	1.9	2.4	1.7	0.56	0.29	0.15	0.19	2	1.9	14	2.8
Alkalinity	mg/l			480	470	280	290	160	160	180	190	190	190	180	180
Boron	mg/l	1	N	0.64	0.67	0.18	0.18	0.11	0.11	0.12	0.11	0.13	0.12	0.16	0.16
Bicarbonate	mg/l			580	570	350	350	200	190	220	230	230	230	220	210
Calcium	mg/l			11	12	27	27	45	45	65	65	64	63	79	76
Carbonate as CO3	mg/l			7.5	8.2	3.3	3.7	ND	2	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			35	39	88	89	140	140	210	210	220	210	270	260
Chloride	mg/l	500	S	14	14	13	13	20	20	27	28	33	35	68	69
Fluoride	mg/l	2	P	0.37	0.41	0.24	0.26	0.19	0.2	0.21	0.22	0.27	0.29	0.35	0.37
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.66	0.73	0.69	0.74	0.68	0.7	0.79	0.79	0.83	0.81	0.68	0.68
Magnesium, Total, ICAP	None			2	2.2	5.2	5.2	6.7	6.9	12	11	14	14	18	18
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.6	2.9	4.1	4	2.6	2.6	2.6	2.5	4	3.8	3.9	4.1
Sodium	mg/l			200	220	96	96	52	50	45	43	49	45	50	50
Sulfate	mg/l	500	S	ND	ND	ND	ND	60	61	75	76	78	80	93	93
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND
Total Organic Carbon	mg/l			14	14	3.2	3.2	0.6	0.7	0.38	0.33	0.42	0.45	0.47	0.56
Carbon Dioxide	mg/l			4.8	4.3	3.8	3.5	2.1	2	3.1	3.2	3	3	4.6	4.3
General Physical Properties															
Apparent Color	ACU	15	S	140	150	25	30	5	10	3	3	3	5	3	3
Lab pH	Units			8.3	8.3	8.2	8.2	8.2	8.2	8.1	8.1	8.1	8.1	7.9	7.9
Odor	TON	3	S	3	2	2	1	1	2	1	1	1	1	3	1
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.5	7.5	7.5	7.5	7.3	7.3	7.3	7.3	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.2	7.2	7	7	7.1	7.1	6.8	6.8	6.8	6.8	6.8	6.8
Specific Conductance	umho/cm	1600	S	920	900	570	570	500	500	590	580	630	620	740	730
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	1.1	ND	ND	ND	ND	ND	ND	2.1	2.1	3.9	5.6
Barium, Total, ICAP/MS	ug/l	1000	P	13	13	17	16	25	24	33	32	83	84	68	51
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Downey #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2010	9/16/2010	4/21/2010	9/16/2010	4/21/2010	9/16/2010	4/21/2010	9/16/2010	4/21/2010	9/16/2010	4/21/2010	9/16/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	220	220	400	390	490	510	550	580	430	420	920	950
Cation Sum	meq/l			3.7	3.9	6.3	6.5	8.1	8.3	8.9	9.4	7.2	7.1	15	16
Anion Sum	meq/l			3.7	3.6	6.3	6.5	8	8.2	9	9.2	7.2	6.8	15	16
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	ND	ND	ND	ND	ND	ND	2.6	2.8	120	110	76	79
Turbidity	NTU	5	S	0.053	0.1	0.2	0.49	0.11	0.4	0.054	0.2	3.7	6.9	0.33	1
Alkalinity	mg/l			160	160	160	160	170	170	190	190	210	210	370	370
Boron	mg/l	1	N	0.05	0.061	0.056	0.066	0.084	0.094	0.2	0.2	0.081	0.091	0.22	0.22
Bicarbonate	mg/l			190	190	190	190	210	210	240	240	260	250	450	450
Calcium	mg/l			41	42	81	83	100	100	96	99	91	89	180	180
Carbonate as CO3	mg/l			ND	2.6	ND	ND	ND	2.6	ND	ND	ND	3.3	ND	4
Hardness (Total, as CaCO3)	mg/l			130	130	250	260	330	340	320	330	300	290	580	590
Chloride	mg/l	500	S	5.3	5.2	38	39	68	69	77	79	39	35	93	95
Fluoride	mg/l	2	P	0.28	0.3	0.25	0.27	0.29	0.32	0.35	0.37	0.36	0.42	0.27	0.3
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.43	0.78	0.72	0.95	0.79	1.2	0.65	0.9	0.8	1.2	1.1	1.6
Magnesium, Total, ICAP	None			5.6	6	13	13	18	19	19	20	17	17	35	36
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	2	2.1	3.2	3.3	1.8	1.8	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.7	2.9	3.5	3.7	3.4	3.5	4.2	4.5	3.6	3.7	5.6	5.8
Sodium	mg/l			25	27	26	28	31	33	57	61	26	27	81	83
Sulfate	mg/l	500	S	17	17	93	97	110	120	140	140	88	79	250	270
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	2	2.1	3.2	3.3	1.8	1.8	ND	ND	ND	ND
Total Organic Carbon	mg/l			ND	ND	ND	ND	ND	0.3	0.4	0.72	ND	0.36	0.58	0.74
Carbon Dioxide	mg/l			3.3	ND	3.4	2.1	4.4	ND	7.1	4.1	5.7	2	17	5.3
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	3	3	ND	ND
Lab pH	Units			8	8.3	8	8.2	7.9	8.3	7.7	8	7.9	8.3	7.6	8.1
Odor	TON	3	S	1	2	1	1	1	ND	2	1	1	1	1	ND
pH of CaCO3 saturation(25C)	Units			7.6	7.5	7.2	7.2	7.1	7.1	7.1	7.1	7.1	7.1	6.5	6.5
pH of CaCO3 saturation(60C)	Units			7.1	7.1	6.8	6.8	6.7	6.7	6.6	6.6	6.6	6.7	6.1	6.1
Specific Conductance	umho/cm	1600	S	360	350	630	640	800	800	890	900	700	660	1400	1400
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.8	2.9	2.2	2.3	2.8	3	1.9	2	3.9	3.8	2.2	2.5
Barium, Total, ICAP/MS	ug/l	1000	P	98	94	180	170	150	130	91	88	240	220	73	69
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	3.3	3.5	2.1	2.2	1.6	1.6	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	0.66	0.57	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	3.8	3.5	2.9	3.1	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Huntington Park #1			
				Zone 1	Zone 2	Zone 3	Zone 4
				5/12/2010	5/12/2010	5/12/2010	5/12/2010
General Mineral Characteristics							
Total Dissolved Solids (TDS)	mg/l	1000	S	380	480	660	760
Cation Sum	meq/l			6.2	7.8	11	13
Anion Sum	meq/l			6.1	7.6	11	12
Iron	mg/l	0.3	S	0.26	ND	ND	ND
Manganese	ug/l	50	S	49	ND	ND	ND
Turbidity	NTU	5	S	0.36	0.3	0.25	0.22
Alkalinity	mg/l			180	190	240	320
Boron	mg/l	1	N	0.14	0.28	0.17	0.18
Bicarbonate	mg/l			220	230	300	390
Calcium	mg/l			63	78	120	140
Carbonate as CO3	mg/l			ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			220	280	410	500
Chloride	mg/l	500	S	22	46	80	73
Fluoride	mg/l	2	P	0.44	0.29	0.32	0.33
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND
Langelier Index - 25 degree	None			0.6	0.33	1	1.1
Magnesium, Total, ICAP	None			15	20	30	36
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	0.73	2.8	4.4
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND
Potassium	mg/l			3.1	3.6	4.3	4.7
Sodium	mg/l			40	51	58	62
Sulfate	mg/l	500	S	88	120	150	170
Surfactants	mg/l	0.5	S	ND	ND	0.8	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	0.73	2.8	4.4
Total Organic Carbon	mg/l			ND	0.57	3.6	0.5
Carbon Dioxide	mg/l			4.6	12	6.2	9.5
General Physical Properties							
Apparent Color	ACU	15	S	5	ND	3	ND
Lab pH	Units			7.9	7.5	7.9	7.8
Odor	TON	3	S	1	1	3	3
pH of CaCO3 saturation(25C)	Units			7.3	7.2	6.9	6.7
pH of CaCO3 saturation(60C)	Units			6.9	6.7	6.5	6.2
Specific Conductance	umho/cm	1600	S	600	750	1000	1200
Metals							
Aluminum, Total, ICAP/MS	ug/l	1000	P	37	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1	1.2	ND	1.2
Barium, Total, ICAP/MS	ug/l	1000	P	64	53	130	100
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.6	4	4.8	6.8
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	6.5
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND
Volatile Organic Compounds							
Trichloroethylene (TCE)	ug/l	5	P	ND	3.6	6.5	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	0.56	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	2.8	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	2.5	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	5	2

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Inglewood #2					
				Zone 1		Zone 2		Zone 3	
				5/18/2010	9/22/2010	5/18/2010	9/22/2010	5/18/2010	9/22/2010
General Mineral Characteristics									
Total Dissolved Solids (TDS)	mg/l	1000	S	1600	1700	1500	1500	310	330
Cation Sum	meq/l			28	29	26	27	5.8	5.5
Anion Sum	meq/l			30	29	27	27	5.6	5.5
Iron	mg/l	0.3	S	0.73	0.58	0.41	0.42	0.11	0.051
Manganese	ug/l	50	S	24	23	23	35	34	33
Turbidity	NTU	5	S	0.68	3.9	14	15	0.4	0.28
Alkalinity	mg/l			1400	1400	1300	1300	250	250
Boron	mg/l	1	N	3.8	3.8	3.3	3.5	0.22	0.21
Bicarbonate	mg/l			1700	1700	1600	1600	310	300
Calcium	mg/l			17	18	11	12	35	33
Carbonate as CO3	mg/l			12	13	13	14	2.9	2.9
Hardness (Total, as CaCO3)	mg/l			110	120	66	68	140	130
Chloride	mg/l	500	S	33	35	19	21	20	20
Fluoride	mg/l	2	P	0.54	0.5	0.29	0.25	0.22	0.19
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1.1	0.9	0.96	0.75	0.72
Magnesium, Total, ICAP	None			17	17	9.3	9.5	13	12
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium	mg/l			25	25	19	19	6.7	6.7
Sodium	mg/l			560	590	530	570	64	62
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND
Surfactants	mg/l	0.5	S	0.052	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			38	38	22	24	1.3	1.5
Carbon Dioxide	mg/l			26	23	22	19	3.5	3.3
General Physical Properties									
Apparent Color	ACU	15	S	200	200	150	200	10	15
Lab pH	Units			8	8.1	8.1	8.1	8.2	8.2
Odor	TON	3	S	67	40	67	40	2	3
pH of CaCO3 saturation(25C)	Units			7	7	7.2	7.2	7.4	7.5
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6.7	6.7	7	7
Specific Conductance	umho/cm	1600	S	2600	2600	2400	2300	540	540
Metals									
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	240	ND	1000	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	1.4	ND	1.2	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	44	44	26	29	16	18
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.9	ND	2.8	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	2.1	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Lakewood #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/13/2010	9/16/2010	4/13/2010	9/16/2010	4/13/2010	9/16/2010	4/13/2010	9/16/2010	4/13/2010	9/16/2010	4/13/2010	9/16/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	160	190	170	200	200	220	240	280	220	250	400	420
Cation Sum	meq/l			2.8	2.9	3.4	3.3	3.8	3.6	4.7	4.7	4.2	4.1	7.1	6.9
Anion Sum	meq/l			2.8	2.8	3.2	3.3	3.7	3.7	4.6	4.7	4.1	4.2	7	7.1
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	0.061	0.05	0.099	0.095	0.096	0.085
Manganese	ug/l	50	S	5.7	4.9	17	17	25	23	90	84	55	54	250	240
Turbidity	NTU	5	S	0.55	0.54	0.43	0.12	0.61	0.4	0.21	0.21	0.35	0.24	0.6	0.34
Alkalinity	mg/l			96	98	130	140	150	160	170	170	180	180	200	200
Boron	mg/l	1	N	0.058	0.06	ND	ND	0.068	0.062	0.072	0.073	0.087	0.084	0.083	0.08
Bicarbonate	mg/l			120	120	160	170	190	190	200	200	210	220	240	250
Calcium	mg/l			10	10	31	31	41	39	51	51	48	47	92	89
Carbonate as CO3	mg/l			2.9	3	ND	2	ND	2.5	ND	2.1	ND	2.1	ND	ND
Hardness (Total, as CaCO3)	mg/l			27	27	93	92	120	120	150	150	160	150	270	260
Chloride	mg/l	500	S	20	20	6.3	6.5	9.3	9	34	38	11	11	76	79
Fluoride	mg/l	2	P	0.45	0.44	0.27	0.25	0.3	0.28	0.29	0.28	0.48	0.47	0.21	0.19
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.22	0.24	0.49	0.54	0.65	0.72	0.72	0.77	0.65	0.74	0.8	0.93
Magnesium, Total, ICAP	None			0.35	0.37	3.7	3.6	5	4.8	6.3	6.1	8.7	8.5	9.2	9
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			ND	ND	2	2	2.3	2.2	2.6	2.8	2.6	2.5	3.5	3.6
Sodium	mg/l			53	53	33	32	31	29	35	36	25	24	38	36
Sulfate	mg/l	500	S	15	15	17	16	16	15	14	14	13	13	40	40
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	0.06	ND	ND	0.089	0.071
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.74	0.9	ND	ND	ND	0.33	0.4	0.58	ND	ND	0.58	0.82
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	2.3	2.1	2.9	2.4	5	3.8
General Physical Properties															
Apparent Color	ACU	15	S	15	15	3	5	3	5	5	5	3	5	3	3
Lab pH	Units			8.6	8.6	8.2	8.3	8.2	8.3	8.2	8.2	8.1	8.2	7.9	8
Odor	TON	3	S	1	1	2	2	1	ND	1	ND	1	1	1	ND
pH of CaCO3 saturation(25C)	Units			8.4	8.4	7.7	7.7	7.6	7.6	7.4	7.4	7.4	7.4	7.1	7.1
pH of CaCO3 saturation(60C)	Units			7.9	7.9	7.3	7.3	7.1	7.1	7	7	7	7	6.7	6.7
Specific Conductance	umho/cm	1600	S	280	290	310	310	350	360	440	470	390	400	690	720
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	11	12	2	2.5	1.1	1	9.7	9.1	3.5	3.5	23	23
Barium, Total, ICAP/MS	ug/l	1000	P	16	15	22	20	30	28	150	140	110	110	250	240
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	La Mirada #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/9/2010	9/10/2010	4/9/2010	9/10/2010	4/9/2010	9/10/2010	4/9/2010	9/10/2010	4/9/2010	9/10/2010
General Mineral Characteristics													
Total Dissolved Solids (TDS)	mg/l	1000	S	320	350	240	260	310	330	390	390	590	1000
Cation Sum	meq/l			5.5	6.1	4.2	4.5	5.2	5.6	6.5	6.9	9.7	15
Anion Sum	meq/l			5.6	5.7	4.2	4.3	5.3	5.4	6.6	6.7	10	15
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	10	10	2.7	3	16	17	48	44	23	24
Turbidity	NTU	5	S	0.35	0.071	0.059	0.059	0.13	0.18	0.37	0.37	0.15	0.088
Alkalinity	mg/l			150	150	140	140	180	190	190	200	190	190
Boron	mg/l	1	N	0.15	0.16	0.11	0.11	0.15	0.16	0.13	0.14	0.15	0.17
Bicarbonate	mg/l			190	190	160	170	220	220	230	240	230	230
Calcium	mg/l			15	15	9.7	10	21	22	45	46	75	130
Carbonate as CO3	mg/l			2.4	2.9	3	3.2	2.3	2.4	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			49	53	30	32	81	84	180	190	300	490
Chloride	mg/l	500	S	24	25	15	15	16	16	35	33	130	280
Fluoride	mg/l	2	P	0.82	0.82	0.59	0.55	0.76	0.75	0.57	0.53	0.46	0.31
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.29	0.4	0.21	0.26	0.43	0.46	0.62	0.63	0.75	0.8
Magnesium, Total, ICAP	None			3.2	3.5	1.4	1.5	7	7.2	17	17	27	44
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	7.8	19
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2	2.1	1.5	1.7	2.3	2.4	2.6	2.7	3	4.1
Sodium	mg/l			100	110	81	88	81	88	66	72	85	120
Sulfate	mg/l	500	S	89	90	48	49	58	59	85	88	96	98
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	7.8	19
Total Organic Carbon	mg/l			ND	ND	ND	ND	0.32	0.46	ND	ND	ND	0.45
Carbon Dioxide	mg/l			ND	ND	ND	ND	2.2	2.2	3.4	3.7	4.2	6
General Physical Properties													
Apparent Color	ACU	15	S	ND	3	ND	ND	3	5	ND	ND	ND	ND
Lab pH	Units			8.3	8.4	8.5	8.5	8.2	8.2	8.1	8	8	7.8
Odor	TON	3	S	2	ND	1	ND	1	ND	1	ND	1	ND
pH of CaCO3 saturation(25C)	Units			8	8	8.2	8.2	7.8	7.8	7.4	7.4	7.2	7
pH of CaCO3 saturation(60C)	Units			7.6	7.5	7.8	7.8	7.3	7.3	7	7	6.8	6.5
Specific Conductance	umho/cm	1600	S	580	570	430	420	530	530	660	640	1000	1500
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	5.8	5.7	7.2	7.3	6.6	7	3.1	3.5	1.6	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	54	50	25	24	36	35	42	39	69	110
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.8	2.9
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	5.8	10
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	3.4	6.5

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Long Beach #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/18/2010	9/2/2010	3/18/2010	9/2/2010	3/18/2010	9/2/2010	3/18/2010	9/2/2010	3/18/2010	9/2/2010	3/18/2010	9/2/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	200	230	220	210	180	200	220	230	780	780	920	950
Cation Sum	meq/l			3.4	3.9	3.3	3.6	3	3.1	3.8	3.9	13	13	15	16
Anion Sum	meq/l			3.8	3.6	3.5	3.6	2.7	3.1	3.8	3.8	13	13	16	16
Iron	mg/l	0.3	S	ND	0.021	ND	ND	ND	ND	ND	ND	0.034	0.035	0.15	0.15
Manganese	ug/l	50	S	2.4	2.6	ND	ND	ND	ND	24	23	65	70	360	360
Turbidity	NTU	5	S	0.28	0.51	0.43	0.26	1.1	2.4	1.3	0.65	0.91	1.6	0.9	0.85
Alkalinity	mg/l			160	160	150	150	100	120	140	140	140	140	270	250
Boron	mg/l	1	N	0.19	0.21	0.18	0.18	0.094	0.095	0.067	0.069	0.14	0.12	0.1	0.11
Bicarbonate	mg/l			200	190	180	180	120	150	170	170	170	170	330	300
Calcium	mg/l			2.2	2.5	2.3	2.5	5.2	5.4	23	24	61	66	180	180
Carbonate as CO3	mg/l			12	12	11	10	5.4	6.4	2.4	2.6	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			6.2	7.2	6.2	6.8	14	15	65	68	190	200	570	590
Chloride	mg/l	500	S	15	15	15	15	12	12	12	12	190	190	180	180
Fluoride	mg/l	2	P	0.68	0.63	0.65	0.59	0.68	0.63	0.41	0.34	0.25	0.19	0.28	0.22
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.16	0.22	0.15	0.14	0.19	0.28	0.47	0.54	0.68	0.74	1.2	1.2
Magnesium, Total, ICAP	None			0.2	0.22	0.12	0.13	0.27	0.27	2.1	2.2	8.7	9.7	31	31
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			ND	ND	ND	ND	ND	ND	1.3	1.2	3	3.1	3.8	3.9
Sodium	mg/l			75	86	73	79	63	65	56	57	200	210	91	95
Sulfate	mg/l	500	S	ND	ND	ND	ND	14	14	33	33	230	230	280	280
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.056	0.058
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.4	3.6	3.2	3.4	1.7	1.8	0.47	0.67	1.2	1.4	1.2	1.4
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	2.2	2.1	6.9	6.1
General Physical Properties															
Apparent Color	ACU	15	S	70	100	50	100	25	40	10	10	5	5	3	5
Lab pH	Units			9	9	9	8.9	8.8	8.8	8.3	8.4	8.1	8.1	7.9	7.9
Odor	TON	3	S	3	2	3	2	2	2	2	1	2	1	2	ND
pH of CaCO3 saturation(25C)	Units			8.8	8.8	8.8	8.8	8.6	8.6	7.9	7.9	7.4	7.4	6.7	6.7
pH of CaCO3 saturation(60C)	Units			8.4	8.3	8.4	8.3	8.2	8.1	7.4	7.4	7	6.9	6.2	6.3
Specific Conductance	umho/cm	1600	S	360	340	350	340	310	300	370	370	1300	1300	1500	1400
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	37	44	32	43	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.5	7.6	7.8
Barium, Total, ICAP/MS	ug/l	1000	P	2	ND	2.1	ND	ND	ND	8.6	8.5	47	53	230	230
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1.2	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Long Beach #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/13/2010	9/27/2010	5/13/2010	9/27/2010	5/13/2010	9/27/2010	5/13/2010	9/27/2010	5/13/2010	9/27/2010	5/13/2010	9/27/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	400	410	270	260	210	220	330	330	1100	1100	1300	1300
Cation Sum	meq/l			6.6	6.6	4.7	4.4	3.8	3.6	5.2	5.2	18	17	22	21
Anion Sum	meq/l			7	6.9	4.6	4.5	3.8	3.7	5.4	5.5	18	18	21	21
Iron	mg/l	0.3	S	0.13	0.16	0.023	0.023	ND	ND	ND	ND	0.23	0.23	0.23	0.23
Manganese	ug/l	50	S	15	15	19	16	7.1	7.1	29	29	190	180	360	350
Turbidity	NTU	5	S	0.69	0.56	0.31	0.42	0.14	0.19	0.94	0.59	0.3	1.6	1.7	1.7
Alkalinity	mg/l			320	310	200	200	150	150	150	150	330	320	320	310
Boron	mg/l	1	N	0.49	0.51	0.22	0.2	0.16	0.13	0.11	0.092	0.32	0.29	0.38	0.34
Bicarbonate	mg/l			380	380	240	240	180	180	180	180	400	390	390	380
Calcium	mg/l			6.7	6.8	15	15	13	12	44	43	200	180	240	230
Carbonate as CO3	mg/l			7	4.5	3.5	4.1	3.7	4.2	2.2	2.5	2.3	2.2	2	2
Hardness (Total, as CaCO3)	mg/l			23	23	46	44	36	33	130	130	630	560	770	730
Chloride	mg/l	500	S	21	22	21	21	23	24	42	44	120	120	180	180
Fluoride	mg/l	2	P	0.61	0.61	0.4	0.42	0.55	0.55	0.27	0.29	0.14	0.15	0.25	0.26
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.41	0.23	0.47	0.53	0.41	0.43	0.73	0.77	1.4	1.3	1.4	1.4
Magnesium, Total, ICAP	None			1.5	1.5	1.8	1.7	1.1	1.1	5	4.9	30	28	38	37
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.2	2.4	1.9	1.8	1.2	1.1	2.7	2.8	5.4	5.3	6.7	6.4
Sodium	mg/l			140	140	86	81	70	66	59	58	130	120	140	140
Sulfate	mg/l	500	S	ND	ND	ND	ND	4.2	3.5	57	59	360	370	450	470
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.069	0.053	0.059	0.06	0.096	0.1
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			13	12	3.7	3.8	2	2.1	1.1	1.3	1.2	1.3	1.4	1.5
Carbon Dioxide	mg/l			2.2	3.4	ND	ND	ND	ND	ND	ND	7.5	7.4	7.8	7.7
General Physical Properties															
Apparent Color	ACU	15	S	400	400	40	40	30	35	5	10	5	10	5	10
Lab pH	Units			8.5	8.3	8.4	8.4	8.5	8.6	8.3	8.3	7.9	7.9	7.9	7.9
Odor	TON	3	S	3	2	2	1	2	2	3	1	1	2	3	1
pH of CaCO3 saturation(25C)	Units			8	8	7.9	7.9	8.1	8.1	7.5	7.6	6.5	6.6	6.5	6.5
pH of CaCO3 saturation(60C)	Units			7.6	7.6	7.4	7.5	7.6	7.7	7.1	7.1	6.1	6.2	6	6.1
Specific Conductance	umho/cm	1600	S	680	650	470	430	390	370	570	540	1700	1600	2000	1900
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	1.1	ND	5.7	4.5	6.6	6
Barium, Total, ICAP/MS	ug/l	1000	P	7.8	8.1	11	10	5.4	4.8	32	29	86	74	100	87
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.8	ND	2.2	ND	1.8	ND	ND	ND	4.1	ND	4.3	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	3.7	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	5.3	ND	6.7	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.9	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	3.2
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Long Beach #6											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				3/26/2010	9/1/2010	3/26/2010	9/1/2010	3/26/2010	9/1/2010	3/26/2010	9/1/2010	3/26/2010	9/1/2010	3/26/2010	9/1/2010
General Mineral Characteristics															
Total Dissolved Solids (TDS)	mg/l	1000	S	680	690	670	710	230	240	230	240	200	200	270	280
Cation Sum	meq/l			11	12	11	12	3.7	3.9	3.6	4.2	3.2	3.3	4.8	4.7
Anion Sum	meq/l			12	12	11	12	3.7	3.8	3.6	3.9	3.1	3.2	4.6	4.5
Iron	mg/l	0.3	S	0.085	0.092	0.097	0.11	0.025	0.034	ND	0.047	ND	ND	0.088	0.088
Manganese	ug/l	50	S	18	17	23	25	4	4.4	22	17	5.5	5.6	100	94
Turbidity	NTU	5	S	0.71	3.2	0.85	3.5	0.25	0.65	0.4	0.56	0.18	0.3	0.17	0.66
Alkalinity	mg/l			540	550	530	540	160	160	150	160	120	120	130	130
Boron	mg/l	1	N	1.1	1.1	1.1	1.1	0.26	0.25	0.21	0.23	0.091	0.095	0.059	0.054
Bicarbonate	mg/l			660	660	640	650	190	200	180	200	140	150	160	150
Calcium	mg/l			8.2	7.9	8.6	8.8	4.9	5	5.9	6.7	12	12	48	47
Carbonate as CO3	mg/l			12	14	11	13	7.7	8	6.3	7.7	3.2	3.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			28	27	28	29	13	14	16	18	34	34	140	140
Chloride	mg/l	500	S		21	20		16	16	16	18	19	19	59	57
Fluoride	mg/l	2	P	0.72	0.71	0.72	0.7	0.64	0.62	0.65	0.64	0.58	0.57	0.21	0.2
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.74	0.8	0.73	0.79	0.32	0.35	0.31	0.45	0.34	0.33	0.57	0.5
Magnesium, Total, ICAP	None			1.6	1.6	1.5	1.6	0.24	0.25	0.34	0.38	0.82	0.81	5.5	5.5
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			1.7	1.6	1.6	1.7	ND	ND	ND	ND	1.1	1.1	2.4	2.3
Sodium	mg/l			240	260	240	260	78	83	75	88	58	59	43	42
Sulfate	mg/l	500	S	1.1	1.2	ND	ND	ND	ND	5.6	2.8	10	10	15	15
Surfactants	mg/l	0.5	S	0.069	ND	0.057	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			22	23	22	23	4.8	5.3	4.9	4.5	2	2.2	0.75	0.82
Carbon Dioxide	mg/l			3.8	3.3	3.9	3.5	ND	ND	ND	ND	ND	ND	ND	2.1
General Physical Properties															
Apparent Color	ACU	15	S	350	300	350	400	120	150	50	130	60	60	ND	5
Lab pH	Units			8.5	8.5	8.4	8.5	8.8	8.8	8.7	8.8	8.5	8.5	8.1	8.1
Odor	TON	3	S	8	2	4	4	2	2	2	1	2	1	2	2
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.7	7.7	8.5	8.4	8.4	8.3	8.2	8.2	7.6	7.6
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.3	7.2	8	8	8	7.9	7.8	7.8	7.1	7.1
Specific Conductance	umho/cm	1600	S	1000	1000	1000	1000	370	360	350	370	310	300	470	470
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	24	21	28	29	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.9	2.3	1.2	ND	ND	ND	ND	ND	ND	ND	3.2	3
Barium, Total, ICAP/MS	ug/l	1000	P	7.6	7.5	12	12	3.8	4	9.9	8.3	ND	3.6	18	18
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	2.8	ND	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ug/l	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Los Angeles #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/18/2010	9/24/2010	5/18/2010	9/24/2010	5/18/2010	9/24/2010	5/18/2010	9/24/2010	5/18/2010	9/24/2010
General Mineral Characteristics													
Total Dissolved Solids (TDS)	mg/l	1000	S	350	360	380	360	370	350	650	660	670	670
Cation Sum	meq/l			6	5.6	6.4	6.1	6.4	6.3	11	10	11	10
Anion Sum	meq/l			5.8	5.7	6.1	6	6.1	6	11	11	11	11
Iron	mg/l	0.3	S	ND	ND	0.19	0.24	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	43	41	53	72	14	19	ND	ND	ND	ND
Turbidity	NTU	5	S	1.5	0.29	0.87	0.82	0.091	0.58	0.095	0.29	0.23	0.36
Alkalinity	mg/l			180	180	190	180	190	180	220	220	220	220
Boron	mg/l	1	N	0.15	0.15	0.15	0.14	0.17	0.16	0.2	0.19	0.2	0.19
Bicarbonate	mg/l			220	220	230	220	230	220	270	270	270	270
Calcium	mg/l			58	54	65	61	64	62	120	110	120	110
Carbonate as CO3	mg/l			2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			200	180	230	210	230	220	420	390	420	380
Chloride	mg/l	500	S	22	22	22	22	22	22	80	78	80	79
Fluoride	mg/l	2	P	0.27	0.26	0.43	0.41	0.37	0.35	0.37	0.38	0.37	0.38
Hydroxide as OH, Calculated	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.88	0.75	0.71	0.7	0.72	0.71	0.92	1	0.9	0.9
Magnesium, Total, ICAP	None			13	12	16	15	16	16	30	29	30	27
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	15	14	15	15
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			3.9	3.9	3.5	3.5	3.3	3.5	4.4	4.5	4.6	4.3
Sodium	mg/l			45	43	41	39	41	41	59	57	59	56
Sulfate	mg/l	500	S	72	72	84	84	84	84	140	140	140	140
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	15	14	15	15
Total Organic Carbon	mg/l			0.39	0.44	ND	ND	ND	ND	0.49	0.44	0.39	0.44
Carbon Dioxide	mg/l			2.2	2.7	3.9	3.6	3.6	3.5	6.1	4.5	6.4	5.7
General Physical Properties													
Apparent Color	ACU	15	S	3	3	ND	ND	ND	ND	10	15	15	15
Lab pH	Units			8.2	8.1	8	8	8	8	7.9	8	7.8	7.9
Odor	TON	3	S	1	ND	1	1	1	ND	2	ND	2	ND
pH of CaCO3 saturation(25C)	Units			7.3	7.4	7.3	7.3	7.3	7.3	6.9	7	6.9	7
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.8	6.9	6.8	6.9	6.5	6.5	6.5	6.5
Specific Conductance	umho/cm	1600	S	560	560	590	590	580	590	1000	1000	1000	1000
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	27	27	46	43	66	62	150	150	150	150
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1	ND	570	570	620	610
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	46	48	48	48
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	2.5	2.8	2.7	2.8
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	0.86	0.76	0.89	0.7
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	5.5	5.1	5.7	5.2

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Los Angeles #2		
				Zone 2	Zone 3	Zone 4
				6/9/2010	6/9/2010	6/9/2010
General Mineral Characteristics						
Total Dissolved Solid (TDS)	mg/l	1000	S	1100	1100	1200
Cation Sum	meq/l			19	19	21
Anion Sum	meq/l			19	19	21
Iron	mg/l	0.3	S	0.18	1.3	1.9
Manganese	ug/l	50	S	360	170	120
Turbidity	NTU	5	S	19	8.5	22
Alkalinity	mg/l			330	340	380
Boron	mg/l	1	N	0.23	0.22	0.27
Bicarbonate as HCO3	mg/l			400	410	460
Calcium, Total, ICAP	mg/l			200	210	220
Carbonate as CO3	mg/l			2.3	2.2	ND
Hardness (Total, as CaCO3)	mg/l			710	730	770
Chloride	mg/l	500	S	210	250	300
Fluoride	mg/l	2	P	0.17	0.22	0.23
Hydroxide as OH	mg/l			ND	ND	ND
Langelier Index - 25 degree	None			1.4	1.4	1.3
Magnesium	None			53	52	55
Mercury	ug/l	2	P	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND
Potassium	mg/l			9	6.7	7.5
Sodium, Total, ICAP	mg/l			93	95	120
Sulfate	mg/l	500	S	310	260	240
Surfactants	mg/l	0.5	S	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND
Total Organic Carbon	mg/l			0.49	0.65	0.9
Carbon Dioxide	mg/l			7.5	8.2	13
General Physical Properties						
Apparent Color	ACU	15	S	5	20	25
Lab pH	Units			7.9	7.9	7.8
Odor	TON	3	S	ND	1	1
pH of CaCO3 saturation(25C)	Units			6.5	6.5	6.4
pH of CaCO3 saturation(60C)	Units			6.1	6.1	6
Specific Conductance	umho/cm	1600	S	1700	1700	1900
Metals						
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	72	180	200
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.1	1.1	1.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND
Volatile Organic Compounds						
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Montebello #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010	5/4/2010	9/20/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	2100	2200	870	880	520	530	530	510	490	480
Cation Sum	meq/l			35	36	15	15	8.1	8.7	8.2	8.8	8.1	8.1
Anion Sum	meq/l			36	37	15	15	8.5	8.8	8.6	8.6	8.2	8.1
Iron	mg/l	0.3	S	0.14	0.16	0.18	0.2	0.034	0.038	ND	ND	ND	ND
Manganese	ug/l	50	S	8.5	8.8	31	31	97	100	57	52	ND	ND
Turbidity	NTU	5	S	0.46	0.7	0.52	0.52	0.91	0.5	0.095	0.5	0.18	0.088
Alkalinity	mg/l			910	900	580	580	190	200	190	190	190	190
Boron	mg/l	1	N	5.8	6.3	2.1	2.3	0.14	0.22	0.11	0.15	0.23	0.21
Bicarbonate as HCO3	mg/l			1100	1100	710	700	230	240	230	230	230	230
Calcium, Total, ICAP	mg/l			12	13	17	18	97	98	99	100	79	78
Carbonate as CO3	mg/l			12	15	7.4	8.9	ND	2.2	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			54	58	71	74	310	310	310	320	260	260
Chloride	mg/l	500	S	650	670	120	130	64	71	69	69	69	68
Fluoride	mg/l	2	P	0.46	0.44	0.32	0.29	0.16	0.14	0.19	0.19	0.36	0.34
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.92	1	0.84	0.94	0.86	1.1	0.91	0.94	0.66	0.66
Magnesium	None			5.7	6	7.1	7.3	16	16	16	17	15	16
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.9	3.5
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			7.5	7.7	5.2	5.5	3.4	3.6	3.4	3.6	3.3	3.3
Sodium, Total, ICAP	mg/l			780	790	300	310	44	54	43	52	64	65
Sulfate	mg/l	500	S	ND	ND	ND	ND	140	140	140	140	110	100
Surfactants	mg/l	0.5	S	0.054	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	2.9	3.5
Total Organic Carbon	mg/l			37	39	24	23	0.64	1.3	0.5	0.77	0.38	0.42
Carbon Dioxide	mg/l			11	8.4	7.1	5.9	4.1	2.8	3.6	3.6	5.5	5.4
General Physical Properties													
Apparent Color	ACU	15	S	350	500	150	250	3	10	ND	5	ND	ND
Lab pH	Units			8.2	8.3	8.2	8.3	8	8.2	8	8	7.8	7.9
Odor	TON	3	S	8	8	8	4	1	1	2	ND	1	1
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.4	7.4	7.1	7.1	7.1	7.1	7.2	7.2
pH of CaCO3 saturation(60C)	Units			6.9	6.8	6.9	6.9	6.7	6.6	6.7	6.6	6.7	6.7
Specific Conductance	umho/cm	1600	S	3500	3600	1400	1400	800	870	840	860	810	810
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	6.7	3.3	1	ND	ND	ND	ND	ND	1.8	1.6
Barium, Total, ICAP/MS	ug/l	1000	P	40	36	27	24	36	37	88	87	58	56
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	4.6	1.7	1.3	ND	1	ND	ND	ND	1.1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	25	ND	3	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	14	8.6	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	0.52	0.74

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Norwalk #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/14/2010	9/30/2010	4/14/2010	9/30/2010	4/14/2010	9/30/2010	4/14/2010	9/30/2010	4/14/2010	9/30/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	490	500	310	300	230	250	200	200	470	470
Cation Sum	meq/l			8.6	8.4	5.2	5	3.8	4.2	3.5	3.4	8.3	7.7
Anion Sum	meq/l			8.1	8.1	5	5.2	4	4.3	3.4	3.4	7.9	7.9
Iron	mg/l	0.3	S	ND	ND	ND	ND	0.02	ND	ND	0.029	0.11	0.18
Manganese	ug/l	50	S	ND	2.1	6.2	6.8	17	19	42	43	160	150
Turbidity	NTU	5	S	0.16	0.44	0.59	0.4	1	0.49	2.1	4.7	25	4.9
Alkalinity	mg/l			270	270	170	170	120	120	130	130	200	200
Boron	mg/l	1	N	0.41	0.4	0.2	0.2	ND	ND	0.052	0.051	0.087	0.081
Bicarbonate as HCO3	mg/l			330	330	200	210	150	150	160	160	250	240
Calcium, Total, ICAP	mg/l			14	13	9.2	8.8	24	26	28	27	75	69
Carbonate as CO3	mg/l			3.4	4.7	3.6	4.9	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			63	61	28	27	68	73	92	90	260	240
Chloride	mg/l	500	S	65	66	57	59	48	56	20	22	130	130
Fluoride	mg/l	2	P	0.5	0.47	0.61	0.58	0.31	0.28	0.3	0.28	0.27	0.25
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.4	0.54	0.26	0.37	0.12	0.4	0.35	0.45	0.75	0.81
Magnesium	None			7.1	6.8	1.3	1.2	2	2.1	5.4	5.3	18	16
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.4	2.4	1.3	1.3	1.9	2.3	1.7	1.8	3.5	3.6
Sodium, Total, ICAP	mg/l			170	160	110	100	56	61	37	37	68	65
Sulfate	mg/l	500	S	40	42	ND	ND	10	9.3	9.6	9.2	5.9	5.9
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.26
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			2.2	2.2	2.6	2.7	0.4	0.5	0.37	0.4	1.9	1.8
Carbon Dioxide	mg/l			3.4	2.4	ND	ND	2.3	ND	ND	ND	4.7	3.7
General Physical Properties													
Apparent Color	ACU	15	S	25	25	40	30	ND	3	3	5	5	5
Lab pH	Units			8.2	8.4	8.4	8.6	8	8.3	8.2	8.3	7.9	8
Odor	TON	3	S	8	4	3	2	3	ND	3	ND	2	4
pH of CaCO3 saturation(25C)	Units			7.8	7.8	8.2	8.2	7.9	7.9	7.8	7.8	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.7	7.7	7.5	7.4	7.4	7.4	6.7	6.8
Specific Conductance	umho/cm	1600	S	820	800	520	510	410	420	340	340	820	800
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	37	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	5	5	17	16	12	12
Barium, Total, ICAP/MS	ug/l	1000	P	11	15	7.3	6.8	81	85	110	110	340	330
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.1	ND	ND	ND	ND	1.3	2.4	1
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	72	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Norwalk #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/28/2010	9/29/2010	4/28/2010	9/29/2010	4/28/2010	9/29/2010	4/28/2010	9/29/2010	4/28/2010	9/29/2010	4/28/2010	9/29/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	420	430	270	270	260	230	310	330	450	460	470	490
Cation Sum	meq/l			7.2	7.3	4.8	4.8	4.1	4.2	5.6	5.6	7.2	7.6	8.1	8.2
Anion Sum	meq/l			7.2	7.2	4.9	4.8	4.1	4.1	5.5	5.5	7.4	7.6	8.1	8.2
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	13	10	11	11	24	23	ND	ND	19	11	8.2	7.5
Turbidity	NTU	5	S	0.31	0.16	0.62	0.18	0.16	0.15	0.16	0.11	0.16	0.15	0.3	0.16
Alkalinity	mg/l			190	180	190	180	150	150	170	160	160	160	190	190
Boron	mg/l	1	N	0.24	0.23	0.25	0.24	ND	ND	0.063	0.058	0.13	0.12	0.2	0.19
Bicarbonate as HCO3	mg/l			230	220	230	220	190	180	210	200	190	190	230	230
Calcium, Total, ICAP	mg/l			45	48	12	12	42	43	66	65	79	85	81	81
Carbonate as CO3	mg/l			ND	2.1	2.9	3.8	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			150	160	39	39	120	130	210	210	260	280	270	270
Chloride	mg/l	500	S	68	70	32	32	12	13	22	23	67	71	67	68
Fluoride	mg/l	2	P	0.32	0.3	0.45	0.45	0.18	0.19	0.26	0.26	0.21	0.21	0.34	0.35
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.54	0.74	0.27	0.39	0.59	0.35	0.62	0.79	0.51	0.8	0.57	0.76
Magnesium	None			9	9.5	2.3	2.3	5	5.1	11	11	16	17	17	17
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.1	1.2	2.5	2.7	2.4	2.3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			3.7	3.8	2.5	2.6	2.6	2.7	3.3	3.4	3.9	4.1	4	4.1
Sodium, Total, ICAP	mg/l			94	92	92	91	35	36	31	30	42	43	59	59
Sulfate	mg/l	500	S	72	76	11	12	33	35	66	69	100	110	110	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	1.1	1.2	2.5	2.7	2.4	2.3
Total Organic Carbon	mg/l			1.3	1.2	1.4	1.2	0.33	0.34	ND	ND	0.36	0.44	0.44	0.58
Carbon Dioxide	mg/l			4.1	2.5	ND	ND	2.2	3.8	4	2.5	5.4	2.9	6.6	4.3
General Physical Properties															
Apparent Color	ACU	15	S	10	10	20	20	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			8	8.2	8.3	8.4	8.1	7.9	7.9	8.1	7.8	8	7.8	7.9
Odor	TON	3	S	2	ND	2	1	2	2	1	ND	1	ND	1	ND
pH of CaCO3 saturation(25C)	Units			7.4	7.4	8	8	7.5	7.6	7.3	7.3	7.3	7.2	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7	7	7.6	7.6	7.1	7.1	6.9	6.9	6.8	6.8	6.7	6.7
Specific Conductance	umho/cm	1600	S	750	710	490	460	410	400	560	530	750	730	820	780
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3.2	2.7	ND	ND	ND	ND	2.1	2.2	2.4	2.4	1.7	1.7
Barium, Total, ICAP/MS	ug/l	1000	P	48	49	9	9.1	29	30	140	160	89	78	54	56
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.9	ND	ND	ND	ND	ND	3.6	1.7	2.5	ND	1.7	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.56	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	0.51	1.4	1.7	1.6	1.4	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Pico #1							
				Zone 1	Zone 2		Zone 3		Zone 4		
				9/28/2010	5/18/2010	9/28/2010	5/18/2010	9/28/2010	5/18/2010	9/28/2010	
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	350	330	330	400	540	560	590	
Cation Sum	meq/l			5.9	5.9	5.4	7	8.4	9.3	9.3	
Anion Sum	meq/l			6.1	5.6	5.5	6.9	8.7	9.3	9.3	
Iron	mg/l	0.3	S	0.093	0.29	0.29	0.31	0.39	ND	ND	
Manganese	ug/l	50	S	36	24	24	13	17	ND	ND	
Turbidity	NTU	5	S	6.3	1.3	2.1	3.1	1.9	0.062	0.19	
Alkalinity	mg/l			300	170	170	170	200	160	160	
Boron	mg/l	1	N	0.63	0.08	0.069	0.15	0.13	0.22	0.22	
Bicarbonate as HCO3	mg/l			360	210	200	210	240	200	200	
Calcium, Total, ICAP	mg/l			9	74	68	73	99	95	94	
Carbonate as CO3	mg/l			4.3	ND	ND	ND	ND	ND	ND	
Hardness (Total, as CaCO3)	mg/l			36	240	220	240	320	310	310	
Chloride	mg/l	500	S	3.1	22	21	42	66	100	110	
Fluoride	mg/l	2	P	0.25	0.27	0.27	0.25	0.28	0.28	0.28	
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	
Langelier Index - 25 degree	None			0.33	0.64	0.66	0.31	0.71	0.53	0.57	
Magnesium	None			3.3	13	12	15	19	18	18	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	1.7	1.7	
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Potassium	mg/l			3.7	2.9	2.9	3.7	4.1	4.5	4.9	
Sodium, Total, ICAP	mg/l			120	24	22	46	43	68	69	
Sulfate	mg/l	500	S	1.1	75	72	110	140	140	140	
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	1.7	1.7	
Total Organic Carbon	mg/l			3.2	ND	0.31	ND	0.45	0.59	0.69	
Carbon Dioxide	mg/l			3.3	4.3	3.7	8.9	6.5	6.7	5.7	
General Physical Properties											
Apparent Color	ACU	15	S	40	5	5	5	10	ND	3	
Lab pH	Units			8.3	7.9	8	7.6	7.8	7.7	7.8	
Odor	TON	3	S	1	1	1	1	1	1	1	
pH of CaCO3 saturation(25C)	Units			7.9	7.3	7.3	7.3	7.1	7.2	7.2	
pH of CaCO3 saturation(60C)	Units			7.5	6.8	6.9	6.8	6.6	6.7	6.7	
Specific Conductance	umho/cm	1600	S	560	550	520	680	810	930	910	
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total, ICAP/MS	ug/l	10	P	5.2	ND	ND	ND	ND	3	2.9	
Barium, Total, ICAP/MS	ug/l	1000	P	16	83	88	41	53	55	59	
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	1.6	ND	
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	
Perchlorate	ug/l	6	P	ND	ND	ND	3	ND	ND	ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Pico #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/5/2010	9/23/2010	5/5/2010	9/23/2010	5/5/2010	9/23/2010	5/5/2010	9/23/2010	5/5/2010	9/23/2010	5/5/2010	9/23/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	520	570	580	640	540	550	500	510	470	490	310	410
Cation Sum	meq/l			8.6	8.8	9.7	9.5	8.4	8.8	7.8	8	7.7	7.6	5	6.5
Anion Sum	meq/l			9	9	10	10	8.8	8.8	8.3	8.2	7.9	7.8	5.2	6.6
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	ND	ND	2.6	ND	ND	ND	ND	ND	24	26	ND	ND
Turbidity	NTU	5	S	0.2	0.91	0.12	0.41	0.5	0.96	0.12	0.58	0.11	0.6	1.8	14
Alkalinity	mg/l			220	210	230	220	200	200	140	140	130	130	100	110
Boron	mg/l	1	N	0.063	ND	0.15	0.14	0.16	0.15	0.24	0.23	0.23	0.24	0.12	0.14
Bicarbonate as HCO3	mg/l			260	260	280	270	240	240	170	170	160	160	130	130
Calcium, Total, ICAP	mg/l			120	120	120	120	96	100	68	67	59	57	32	50
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			370	380	400	390	320	340	230	230	210	210	120	190
Chloride	mg/l	500	S	52	54	79	79	72	74	98	97	94	92	55	77
Fluoride	mg/l	2	P	0.25	0.22	0.26	0.25	0.3	0.28	0.33	0.28	0.38	0.4	0.41	0.28
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.87	1.1	0.84	0.98	0.57	0.95	0.23	0.44	0.14	0.3	-0.27	-0.00078
Magnesium	None			20	21	24	24	19	20	14	15	16	16	10	16
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	3.2	3.2	2.8	2.9	3	3.2	2.5	2.8	2.5	2.9	1.5	1.8
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			3.6	3.9	3.8	3.8	4	4.2	3.8	4.1	4.1	4.4	5.2	6.6
Sodium, Total, ICAP	mg/l			25	25	37	38	43	45	73	77	76	77	56	58
Sulfate	mg/l	500	S	140	140	150	150	120	130	120	120	110	110	68	99
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	3.2	3.2	2.8	2.9	3	3.2	2.5	2.8	2.5	2.9	1.5	1.8
Total Organic Carbon	mg/l			ND	ND	0.37	0.38	ND	0.42	0.58	0.77	0.75	0.86	1.1	1
Carbon Dioxide	mg/l			6.4	4.2	7.9	5.4	8.9	3.8	7	4.1	6.7	4.4	5.5	5.3
General Physical Properties															
Apparent Color	ACU	15	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	10
Lab pH	Units			7.8	8	7.8	7.9	7.7	8	7.6	7.8	7.6	7.8	7.6	7.6
Odor	TON	3	S	1	ND	1	ND	1	1	2	1	2	ND	1	1
pH of CaCO3 saturation(25C)	Units			7	7	6.9	6.9	7.1	7.1	7.4	7.4	7.5	7.5	7.8	7.6
pH of CaCO3 saturation(60C)	Units			6.5	6.5	6.5	6.5	6.6	6.6	6.9	6.9	7	7	7.4	7.2
Specific Conductance	umho/cm	1600	S	870	850	970	930	870	850	860	820	820	790	550	680
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.6	1.5	2.2	2.4	1.7	1.6	2.7	2.2	1.3	ND	16	12
Barium, Total, ICAP/MS	ug/l	1000	P	170	190	120	120	99	110	59	56	75	74	77	120
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.1	1.7	1.6	ND	2	1.6	1.5	ND	1.6	ND	1.4	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	0.68	0.74	1.8	1.9	3.4	4	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.72
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	1.9	1.9	0.53	0.58	0.92	1.2	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Rio Hondo #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/21/2010	9/23/2010	4/21/2010	9/23/2010	4/21/2010	9/23/2010	4/21/2010	9/23/2010	4/21/2010	9/23/2010	4/21/2010	9/23/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	270	280	460	480	500	500	410	420	370	330	200	200
Cation Sum	meq/l			4.4	4.3	7.4	7.3	8.1	8.2	6.4	6.5	5.8	5.2	2.8	3.3
Anion Sum	meq/l			4.4	4.5	7.5	7.5	8.1	8.1	6.6	6.7	5.9	5.4	2.9	3.3
Iron	mg/l	0.3	S	ND	ND	0.072	0.069	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	29	21	35	35	ND	ND	ND	ND	ND	ND	ND	ND
Turbidity	NTU	5	S	1.4	0.95	0.25	0.79	0.14	0.52	0.058	1.2	4.7	1.2	9.3	12
Alkalinity	mg/l			150	150	170	170	190	190	130	130	120	110	74	67
Boron	mg/l	1	N	0.055	0.07	ND	ND	0.15	0.15	0.18	0.18	0.14	0.13	0.094	0.08
Bicarbonate as HCO3	mg/l			180	180	210	210	230	230	160	160	140	140	90	82
Calcium, Total, ICAP	mg/l			40	39	97	94	91	92	59	59	53	46	20	25
Carbonate as CO3	mg/l			ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			130	130	310	300	290	300	190	200	180	160	70	87
Chloride	mg/l	500	S	18	18	49	50	64	65	70	74	62	54	20	32
Fluoride	mg/l	2	P	0.23	0.23	0.19	0.18	0.27	0.27	0.34	0.34	0.28	0.3	0.38	0.35
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.51	0.64	0.79	0.9	0.76	0.87	0.34	0.46	0.16	0.23	-0.51	-0.33
Magnesium	None			8.1	8.1	17	17	16	17	11	12	12	9.9	5	6.2
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	1.8	1.8	2	2.1	2	2	1.5	1.3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.7	2.7	3.4	3.4	3.8	3.9	3.5	3.6	3.3	3.2	2.5	2.7
Sodium, Total, ICAP	mg/l			38	38	25	25	48	50	57	57	49	46	30	34
Sulfate	mg/l	500	S	48	48	130	130	110	110	90	91	79	71	33	45
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	1.8	1.8	2	2.1	2	2	1.5	1.3
Total Organic Carbon	mg/l			ND	0.36	ND	0.33	0.38	0.42	0.41	0.47	ND	0.39	ND	0.51
Carbon Dioxide	mg/l			2.3	ND	4	3	5	3.9	3.9	2.9	4.3	3.1	3	2.1
General Physical Properties															
Apparent Color	ACU	15	S	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	10
Lab pH	Units			8.1	8.2	7.9	8.1	7.9	8	7.8	7.9	7.7	7.9	7.7	7.8
Odor	TON	3	S	1	1	2	1	1	1	1	ND	1	ND	1	ND
pH of CaCO3 saturation(25C)	Units			7.6	7.6	7.1	7.2	7.1	7.1	7.5	7.5	7.6	7.6	8.2	8.1
pH of CaCO3 saturation(60C)	Units			7.2	7.2	6.7	6.7	6.7	6.7	7	7	7.1	7.2	7.8	7.7
Specific Conductance	umho/cm	1600	S	440	430	710	720	800	780	680	690	620	560	300	350
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	1.9	2	2.4	2.5	1.6	1.6	1.4	1.2
Barium, Total, ICAP/MS	ug/l	1000	P	20	20	55	54	130	130	54	55	61	53	43	50
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	1	ND	ND	ND	1.1	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	South Gate #1				
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
				5/12/2010	5/12/2010	5/12/2010	5/12/2010	5/12/2010
General Mineral Characteristics								
Total Dissolved Solid (TDS)	mg/l	1000	S	300	420	410	460	580
Cation Sum	meq/l			5.3	6.7	6.9	7.6	9.7
Anion Sum	meq/l			5.2	6.6	6.8	7.4	9.3
Iron	mg/l	0.3	S	0.03	ND	ND	ND	0.071
Manganese	ug/l	50	S	47	ND	ND	ND	120
Turbidity	NTU	5	S	0.11	0.45	0.19	0.33	0.46
Alkalinity	mg/l			170	150	160	170	200
Boron	mg/l	1	N	0.12	0.14	0.12	0.17	0.14
Bicarbonate as HCO3	mg/l			210	180	200	200	250
Calcium, Total, ICAP	mg/l			52	71	77	80	100
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			160	230	260	270	360
Chloride	mg/l	500	S	23	51	46	61	100
Fluoride	mg/l	2	P	0.3	0.29	0.34	0.34	0.37
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.71	0.62	0.72	0.68	0.81
Magnesium	None			8	13	16	16	26
Mercury	ug/l	2	P	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	2.1	2.3	2.3	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND
Potassium	mg/l			2.4	3.1	2.8	3.2	3
Sodium, Total, ICAP	mg/l			46	45	39	52	56
Sulfate	mg/l	500	S	55	100	100	110	110
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	2.1	2.3	2.3	ND
Total Organic Carbon	mg/l			ND	0.33	ND	0.32	0.59
Carbon Dioxide	mg/l			2.6	3.2	3.3	4	5.6
General Physical Properties								
Apparent Color	ACU	15	S	3	ND	ND	ND	3
Lab pH	Units			8.1	8	8	7.9	7.9
Odor	TON	3	S	2	1	2	1	2
pH of CaCO3 saturation(25C)	Units			7.4	7.3	7.3	7.2	7
pH of CaCO3 saturation(60C)	Units			7	6.9	6.8	6.8	6.6
Specific Conductance	umho/cm	1600	S	510	670	670	740	920
Metals								
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3.1	2.9	2.9	2.3	2.6
Barium, Total, ICAP/MS	ug/l	1000	P	140	93	150	73	220
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.6	2.1	3.4	3	2.9
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND
Volatile Organic Compounds								
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	0.67	2.6	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	0.87	2.4	0.69	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Whittier #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				4/8/2010	9/28/2010	4/8/2010	9/28/2010	4/8/2010	9/28/2010	4/8/2010	9/28/2010	4/8/2010	9/28/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	2700	2700	2500	2600	1800	1800	690	700	650	700
Cation Sum	meq/l			41	38	39	37	28	26	12	11	12	10
Anion Sum	meq/l			41	39	39	42	27	27	11	12	11	11
Iron	mg/l	0.3	S	0.57	0.54	0.43	0.43	0.28	0.3	ND	ND	ND	ND
Manganese	ug/l	50	S	57	55	91	80	76	69	25	24	5.3	5.4
Turbidity	NTU	5	S	3.3	3.8	2.8	2.7	1.6	1.9	1.4	0.15	0.88	0.72
Alkalinity	mg/l			270	270	290	290	300	290	250	260	240	240
Boron	mg/l	1	N	0.91	0.81	0.99	0.9	0.65	0.59	0.21	0.2	0.18	0.15
Bicarbonate as HCO3	mg/l			330	330	350	350	370	360	310	310	290	290
Calcium, Total, ICAP	mg/l			200	180	200	180	160	150	85	75	85	74
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			1100	940	1000	950	790	710	370	330	380	340
Chloride	mg/l	500	S	270	230	240	270	190	180	76	79	81	84
Fluoride	mg/l	2	P	0.26	0.27	0.27	0.28	0.47	0.48	0.18	0.18	0.3	0.3
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.1	1.1	1.2	1.1	1.2	1.1	0.85	0.74	0.82	0.79
Magnesium	None			140	120	130	120	92	85	37	34	41	37
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.9	4.1	4.9	5.3
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			11	11	10	9.8	7	7.1	4.1	4	3.5	3.4
Sodium, Total, ICAP	mg/l			450	440	420	410	270	260	110	100	88	83
Sulfate	mg/l	500	S	1300	1300	1300	1400	770	780	180	190	170	180
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	3.9	4.1	4.9	5.3
Total Organic Carbon	mg/l			1.6	1.7	2	2.1	1.1	1.2	ND	ND	ND	ND
Carbon Dioxide	mg/l			9.4	8.5	8.9	10	8.7	8.1	6.8	8	6.5	5.9
General Physical Properties													
Apparent Color	ACU	15	S	20	20	15	20	10	10	ND	ND	ND	ND
Lab pH	Units			7.8	7.8	7.8	7.8	7.8	7.9	7.9	7.8	7.9	7.9
Odor	TON	3	S	2	3	2	1	2	1	2	1	1	ND
pH of CaCO3 saturation(25C)	Units			6.6	6.7	6.6	6.7	6.7	6.7	7	7.1	7.1	7.1
pH of CaCO3 saturation(60C)	Units			6.2	6.2	6.2	6.2	6.2	6.3	6.6	6.6	6.6	6.7
Specific Conductance	umho/cm	1600	S	3500	3500	3300	3300	2400	2400	1100	1100	1100	1100
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.1	ND	1.2	ND	ND	ND	1.6	1.4	1.1	ND
Barium, Total, ICAP/MS	ug/l	1000	P	18	16	18	16	21	19	34	30	27	25
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.4	ND	2.2	ND	1.8	ND	1.3	ND	4.1	3.5
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	13	14	16	17
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	1.6	1.6	2.7	2.6

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Whittier #2											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				4/7/2010	9/29/2010	4/7/2010	9/29/2010	4/7/2010	9/29/2010	4/7/2010	9/29/2010	4/7/2010	9/29/2010	4/7/2010	9/29/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	860	870	230	230	720	740	1600	1800	730	690	1100	1100
Cation Sum	meq/l			15	15	4.2	4.1	13	12	27	28	13	11	19	17
Anion Sum	meq/l			15	14	4	4	12	12	26	29	12	11	17	18
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	ug/l	50	S	60	53	40	41	56	65	190	190	ND	ND	ND	ND
Turbidity	NTU	5	S	0.35	0.28	0.21	0.3	0.17	0.21	0.22	0.19	0.47	0.14	0.99	0.49
Alkalinity	mg/l			240	240	170	170	210	210	370	400	230	210	310	360
Boron	mg/l	1	N	0.67	0.61	0.27	0.26	0.25	0.24	0.82	0.85	0.21	0.18	0.39	0.36
Bicarbonate as HCO3	mg/l			290	290	200	210	260	250	450	490	280	250	380	440
Calcium, Total, ICAP	mg/l			91	93	24	23	89	84	140	130	140	120	180	170
Carbonate as CO3	mg/l			ND	ND	2.5	2.4	ND	ND	2.1	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			340	340	78	75	370	350	690	680	470	400	640	590
Chloride	mg/l	500	S	240	230	11	10	120	120	220	240	130	110	90	93
Fluoride	mg/l	2	P	0.31	0.26	0.3	0.27	0.3	0.27	0.47	0.43	0.25	0.24	0.29	0.26
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.91	0.87	0.52	0.47	0.98	0.89	1.2	1.1	1.1	1	1.3	1.2
Magnesium	None			28	26	4.5	4.4	36	35	86	85	28	24	44	42
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	0.55	0.58	2.4	2.4	6.8	4.2	7.9	7.9
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			4.7	4.6	2.4	2.6	3.9	4.2	4.2	4.4	4.7	4.7	5	5.1
Sodium, Total, ICAP	mg/l			190	180	58	58	120	120	310	320	78	73	130	130
Sulfate	mg/l	500	S	150	160	14	15	210	220	570	650	180	170	360	350
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	0.55	0.58	2.4	2.4	6.8	4.2	7.9	7.9
Total Organic Carbon	mg/l			0.7	0.78	0.5	0.56	0.36	0.41	0.42	0.51	0.33	0.36	0.44	0.51
Carbon Dioxide	mg/l			5.6	6.1	ND	ND	3.6	4	10	15	4.8	4.6	8.5	11
General Physical Properties															
Apparent Color	ACU	15	S	ND	3	5	5	ND	ND	ND	ND	ND	ND	ND	ND
Lab pH	Units			7.9	7.9	8.3	8.2	8.1	8	7.9	7.7	8	8	7.9	7.8
Odor	TON	3	S	3	1	2	1	2	1	1	ND	1	ND	1	1
pH of CaCO3 saturation(25C)	Units			7	7	7.8	7.8	7.1	7.1	6.7	6.6	6.8	7	6.6	6.6
pH of CaCO3 saturation(60C)	Units			6.6	6.6	7.3	7.3	6.6	6.7	6.2	6.2	6.4	6.5	6.2	6.1
Specific Conductance	umho/cm	1600	S	1500	1400	400	380	1200	1200	2500	2500	1200	1100	1600	1500
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	2.4	1.2	ND	ND	2.4	2.2	1.9	1.4	1.7	1.2	1.9	1.6
Barium, Total, ICAP/MS	ug/l	1000	P	32	29	21	22	51	51	14	14	97	81	41	38
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	3.3	1.8	ND	ND	3	2.4	5.2	4.8
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.9	ND
Selenium, Total, ICAP/MS	ug/l	50	P	6.1	ND	ND	ND	ND	ND	8.8	8.1	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	1.3	0.86	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	0.61
1,1-Dichloroethylene	ug/l	6	P	ND	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	1.4	1.3	2.6	ND	5.4	2.3	3.3	2.5

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Whittier Narrows #1									
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9	
				9/8/2010	9/8/2010	9/8/2010	9/8/2010	9/8/2010	9/8/2010	9/8/2010	9/8/2010	9/8/2010	
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	1200	210	450	540	450	470	570	590	610	
Cation Sum	meq/l			19	3.5	7.1	8.2	7.1	8.7	9.6	9.8	10	
Anion Sum	meq/l			20	3.4	6.9	8.1	7	8.6	9.6	9.7	10	
Iron	mg/l	0.3	S	9.1	0.039	0.026	0.031	ND	ND	0.024	ND	ND	
Manganese	ug/l	50	S	640	17	ND	ND	ND	26	32	17	19	
Turbidity	NTU	5	S	75	0.59	0.63	0.56	0.28	0.46	0.39	0.51	0.43	
Alkalinity	mg/l			84	110	140	150	150	160	160	170	170	
Boron	mg/l	1	N	1	0.17	0.071	0.086	0.096	0.24	0.27	0.28	0.3	
Bicarbonate as HCO3	mg/l			100	140	170	190	180	190	200	210	210	
Calcium, Total, ICAP	mg/l			65	11	98	110	93	90	87	89	81	
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Hardness (Total, as CaCO3)	mg/l			210	31	280	330	290	280	280	290	280	
Chloride	mg/l	500	S	650	32	66	89	73	100	120	120	120	
Fluoride	mg/l	2	P	0.73	0.38	0.21	0.23	0.23	0.22	0.23	0.23	0.3	
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Langelier Index - 25 degree	None			-0.5	-0.032	0.79	1	0.89	0.9	0.87	0.89	0.79	
Magnesium	None			13	0.49	9.7	14	13	14	15	16	18	
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nitrate-N by IC	mg/l	10	P	ND	ND	1.3	1.4	1.3	1.1	2.6	2.6	2.9	
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Potassium	mg/l			ND	1.7	2.9	4.3	4.2	5	5.4	5.6	5.8	
Sodium, Total, ICAP	mg/l			350	65	31	34	29	67	91	90	110	
Sulfate	mg/l	500	S	ND	9.4	100	110	90	120	130	130	150	
Surfactants	mg/l	0.5	S	ND	ND	0.11	ND	0.13	0.069	0.18	0.081	0.17	
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	1.3	1.4	1.3	1.1	2.6	2.6	2.9	
Total Organic Carbon	mg/l			8.8	0.83	0.7	1	0.74	1.2	1.2	1.3	1.6	
Carbon Dioxide	mg/l			12	ND	2.6	2.1	2.3	2.5	2.7	3	3.5	
General Physical Properties													
Apparent Color	ACU	15	S	120	5	ND	ND	ND	ND	ND	ND	5	
Lab pH	Units			7.1	8.2	8	8.2	8.1	8.1	8.1	8.1	8	
Odor	TON	3	S	4	3	ND	ND	ND	1	1	1	1	
pH of CaCO3 saturation(25C)	Units			7.6	8.2	7.2	7.1	7.2	7.2	7.2	7.2	7.2	
pH of CaCO3 saturation(60C)	Units			7.2	7.8	6.8	6.7	6.8	6.8	6.8	6.7	6.8	
Specific Conductance	umho/cm	1600	S	2200	340	680	780	690	850	940	950	990	
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	22	ND	ND	
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Arsenic, Total, ICAP/MS	ug/l	10	P	9.8	1.7	1.2	1.8	1.5	1.7	1.9	1.5	1.2	
Barium, Total, ICAP/MS	ug/l	1000	P	430	25	200	200	190	140	110	88	54	
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	3.3	2	3.4	1.5	1.6	1.2	ND	
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	3.7	4.2	
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	35	8.8	18	19	
Selenium, Total, ICAP/MS	ug/l	50	P	12	ND	ND	ND	ND	ND	ND	ND	ND	
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Zinc, Total, ICAP/MS	ug/l	5000	S	39	25	ND	24	ND	25	21	ND	ND	
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Perchlorate	ug/l	6	P										

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.1
CENTRAL BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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CONSTITUENTS	UNITS	MCL	MCL TYPE	Willowbrook #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				4/15/2010	9/22/2010	4/15/2010	9/22/2010	4/15/2010	9/22/2010	4/15/2010	9/22/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	350	340	310	320	350	320	350	330
Cation Sum	meq/l			6	6.4	5.7	5.7	5.9	6	5.9	5.8
Anion Sum	meq/l			5.9	6.1	5.2	5.5	5.7	5.8	5.6	5.8
Iron	mg/l	0.3	S	0.057	0.063	ND	ND	0.077	0.079	ND	ND
Manganese	ug/l	50	S	52	50	49	48	31	30	87	87
Turbidity	NTU	5	S	0.45	0.56	0.089	0.11	0.24	0.21	27	10
Alkalinity	mg/l			230	250	160	180	180	180	180	190
Boron	mg/l	1	N	0.2	0.2	0.12	0.11	0.13	0.12	0.12	0.13
Bicarbonate as HCO3	mg/l			290	310	200	210	220	220	220	230
Calcium, Total, ICAP	mg/l			41	39	58	57	60	60	60	58
Carbonate as CO3	mg/l			2.1	3	ND	2.2	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			140	130	190	190	200	200	190	190
Chloride	mg/l	500	S	17	16	20	21	20	21	23	24
Fluoride	mg/l	2	P	0.25	0.22	0.28	0.24	0.41	0.36	0.36	0.32
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.67	0.81	0.7	0.85	0.6	0.76	0.65	0.77
Magnesium	None			8.5	8.5	11	11	13	13	10	10
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			4.5	5	2.6	2.7	3.5	3.6	2.9	2.9
Sodium, Total, ICAP	mg/l			73	84	43	45	41	43	45	45
Sulfate	mg/l	500	S	35	28	68	69	72	75	65	66
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, CALC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.8	2.3	ND	0.34	ND	0.31	ND	0.33
Carbon Dioxide	mg/l			4.2	3.3	2.6	2.2	4.2	3	3.8	2.9
General Physical Properties											
Apparent Color	ACU	15	S	15	20	3	3	3	ND	3	5
Lab pH	Units			8.1	8.2	8.1	8.2	7.9	8.1	8	8.1
Odor	TON	3	S	3	1	1	ND	2	1	2	ND
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.4	7.4	7.3	7.3	7.3	7.3
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
Specific Conductance	umho/cm	1600	S	580	590	540	530	560	570	560	560
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	6.1	5.8	ND	ND	2.9	2.9	4.9	4.7
Barium, Total, ICAP/MS	ug/l	1000	P	40	41	52	53	75	75	130	140
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Carson #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/11/2010	8/24/2010	3/11/2010	8/24/2010	3/11/2010	8/24/2010	3/11/2010	8/24/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	210	200	250	230	310	310	370	380
Cation Sum	meq/l			3.5	3.7	4.3	4.4	5.3	5.3	6.4	6.3
Anion Sum	meq/l			3.6	3.3	4.1	4	5.3	5.1	6.4	6.2
Iron	mg/l	0.3	S	ND	ND	0.02	0.027	ND	ND	0.063	0.062
Manganese	ug/l	50	S	23	30	16	15	31	ND	87	89
Turbidity	NTU	5	S	0.71	0.19	0.26	0.3	0.35	0.095	1.2	3.5
Alkalinity	mg/l			150	140	170	170	170	160	190	180
Boron	mg/l	1	N	0.1	0.1	0.12	0.11	0.12	0.11	0.13	0.12
Bicarbonate as HCO3	mg/l			180	160	210	210	210	200	230	220
Calcium	mg/l			21	22	34	35	45	44	52	52
Carbonate as CO3	mg/l			2.4	2.4	2.8	2.7	2.2	2.3	2.4	ND
Hardness (Total, as CaCO3)	mg/l			68	71	110	120	160	160	190	190
Chloride	mg/l	500	S	20	20	21	21	23	21	41	40
Fluoride	mg/l	2	P	0.23	0.24	0.19	0.19	0.28	0.28	0.38	0.38
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.45	0.46	0.73	0.73	0.74	0.75	0.83	0.66
Magnesium, Total, ICAP	None			4	4.2	7.1	7.4	12	12	15	15
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			2.7	2.7	2.4	2.5	2.9	2.9	3.5	3.5
Sodium, Total, ICAP	mg/l			48	50	44	46	46	46	57	57
Sulfate	mg/l	500	S	ND	ND	ND	ND	62	59	68	67
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.69	0.88	0.38	0.5	ND	0.41	0.36	0.49
Carbon Dioxide	mg/l			ND	ND	ND	ND	2	ND	2.4	3.2
General Physical Properties											
Apparent Color	ACU	15	S	10	5	3	3	ND	3	3	5
Lab pH	Units			8.3	8.4	8.3	8.3	8.2	8.3	8.2	8.1
Odor	TON	3	S	1	ND	2	2	2	ND	1	ND
pH of CaCO3 saturation(25C)	Units			7.9	7.9	7.6	7.6	7.5	7.5	7.4	7.4
pH of CaCO3 saturation(60C)	Units			7.4	7.4	7.1	7.1	7	7.1	6.9	6.9
Specific Conductance	umho/cm	1600	S	340	350	400	400	510	520	610	630
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	17	63	38	35	66	ND	180	180
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010

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Constituents	Units	MCL	MCL Type	Carson #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/11/2010	8/24/2010	3/11/2010	8/24/2010	3/11/2010	8/24/2010	3/11/2010	8/24/2010	3/11/2010	8/24/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	230	230	260	260	260	280	250	250	270	250
Cation Sum	meq/l			3.8	3.9	4.6	4.4	4.9	4.8	4.3	4.3	4.6	4.5
Anion Sum	meq/l			4.9	3.8	4.4	4.4	5.1	4.7	4.5	4.2	4.7	4.5
Iron	mg/l	0.3	S	ND	ND	ND	ND	ND	ND	ND	ND	0.059	0.054
Manganese	ug/l	50	S	2.7	7.4	7.6	32	17	16	11	9.8	57	56
Turbidity	NTU	5	S	0.8	1.8	0.21	0.15	0.34	0.11	0.36	0.16	0.76	0.75
Alkalinity	mg/l			220	160	190	190	190	180	190	180	190	180
Boron	mg/l	1	N	0.15	0.14	0.15	0.13	0.13	0.13	0.12	0.11	0.12	0.11
Bicarbonate as HCO3	mg/l			260	200	230	230	230	220	230	220	230	210
Calcium	mg/l			2.5	2.8	11	10	30	29	33	32	41	40
Carbonate as CO3	mg/l			9	7.3	4.2	4.8	3.3	2.9	3.1	2.3	2.8	2
Hardness (Total, as CaCO3)	mg/l			8	8.8	43	41	110	110	120	120	140	140
Chloride	mg/l	500	S	19	19	21	21	22	22	22	21	21	21
Fluoride	mg/l	2	P	0.32	0.31	0.23	0.25	0.27	0.27	0.23	0.23	0.28	0.28
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.099	0.05	0.41	0.44	0.73	0.67	0.75	0.6	0.8	0.64
Magnesium, Total, ICAP	None			0.41	0.45	3.7	3.6	9.5	9.6	10	11	9.1	9
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			1.7	1.8	3.9	3.8	4.3	4.2	3.7	3.7	3.1	3.1
Sodium, Total, ICAP	mg/l			83	84	84	81	57	56	40	39	39	39
Sulfate	mg/l	500	S	ND	ND	ND	0.66	27	25	ND	ND	18	18
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.7	1.7	1.1	1.3	0.51	0.78	0.42	0.62	ND	0.42
Carbon Dioxide	mg/l			ND	ND	ND	ND	ND	ND	ND	2.2	2	2.4
General Physical Properties													
Apparent Color	ACU	15	S	30	35	20	20	5	5	3	5	ND	3
Lab pH	Units			8.7	8.8	8.5	8.5	8.3	8.3	8.3	8.2	8.3	8.2
Odor	TON	3	S	2	1	3	2	2	1	3	2	2	2
pH of CaCO3 saturation(25C)	Units			8.6	8.7	8	8.1	7.6	7.7	7.6	7.6	7.5	7.5
pH of CaCO3 saturation(60C)	Units			8.2	8.3	7.6	7.6	7.2	7.2	7.1	7.2	7	7.1
Specific Conductance	umho/cm	1600	S	380	380	430	440	460	480	410	420	440	450
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	ND	5.7	6.2	27	14	14	16	15	21	21
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Chandler #3			
				Zone 1		Zone 2	
				5/20/2010	9/9/2010	5/20/2010	9/9/2010
General Mineral Characteristics							
Total Dissolved Solid (TDS)	mg/l	1000	S	610	600	1200	1100
Cation Sum	meq/l			11	11	21	20
Anion Sum	meq/l			11	11	20	19
Iron	mg/l	0.3	S	0.2	0.16	ND	ND
Manganese	ug/l	50	S	73	71	14	32
Turbidity	NTU	5	S	1.3	0.54	4.6	120
Alkalinity	mg/l			360	350	500	460
Boron	mg/l	1	N	0.24	0.22	0.45	0.41
Bicarbonate as HCO3	mg/l			440	420	610	560
Calcium	mg/l			78	72	200	190
Carbonate as CO3	mg/l			2.1	3	2.5	2.1
Hardness (Total, as CaCO3)	mg/l			290	270	710	690
Chloride	mg/l	500	S	120	130	200	210
Fluoride	mg/l	2	P	0.26	0.24	0.21	0.19
Hydroxide as OH	mg/l			ND	ND	ND	ND
Langelier Index - 25 degree	None			0.95	1.1	1.4	1.3
Magnesium, Total, ICAP	None			23	21	52	53
Mercury	ug/l	2	P	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	18	19
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND
Potassium	mg/l			3.5	3.5	3.9	4.2
Sodium, Total, ICAP	mg/l			130	130	150	150
Sulfate	mg/l	500	S	14	11	150	130
Surfactants	mg/l	0.5	S	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	18	19
Total Organic Carbon	mg/l			1.3	1.5	0.92	1
Carbon Dioxide	mg/l			9.9	6.3	16	16
General Physical Properties							
Apparent Color	ACU	15	S	10	10	ND	10
Lab pH	Units			7.9	8	7.8	7.8
Odor	TON	3	S	1	ND	2	1
pH of CaCO3 saturation(25C)	Units			6.9	7	6.4	6.4
pH of CaCO3 saturation(60C)	Units			6.5	6.5	5.9	6
Specific Conductance	umho/cm	1600	S	1100	1000	1900	1600
Metals							
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	3.6	2.9	4.1	3
Barium, Total, ICAP/MS	ug/l	1000	P	37	30	100	95
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	3.8	1.2	11	3.1
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	54	85
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	9.7	8.8
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND
Volatile Organic Compounds							
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		4.4	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Gardena #1							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/9/2010	8/30/2010	3/9/2010	8/30/2010	3/9/2010	8/30/2010	3/9/2010	8/30/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	360	350	320	340	310	320	2500	2900
Cation Sum	meq/l			6.4	6.2	5.7	5.7	5.7	5.5	39	38
Anion Sum	meq/l			6.6	6.4	5.7	5.7	5.4	5.5	37	40
Iron	mg/l	0.3	S	0.25	0.29	ND	0.029	0.024	0.034	ND	ND
Manganese	ug/l	50	S	79	85	58	65	47	44	ND	ND
Turbidity	NTU	5	S	7.3	21	8.2	41	4.4	11	10	14
Alkalinity	mg/l			290	290	190	180	170	180	160	190
Boron	mg/l	1	N	0.35	0.35	0.13	0.14	0.12	0.13	0.14	0.15
Bicarbonate as HCO3	mg/l			360	350	240	220	200	210	200	230
Calcium	mg/l			25	22	56	55	56	54	430	430
Carbonate as CO3	mg/l			3.6	3.7	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			99	90	190	190	190	180	1600	1600
Chloride	mg/l	500	S	20	18	25	25	22	22	1100	1200
Fluoride	mg/l	2	P	0.2	0.19	0.4	0.38	0.41	0.39	0.15	0.14
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.69	0.66	0.72	0.7	0.68	0.7	0.97	0.95
Magnesium, Total, ICAP	None			9	8.5	13	13	12	11	130	130
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	19	20
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			9.5	9.8	3.6	3.6	3.2	3.2	7.6	7.6
Sodium, Total, ICAP	mg/l			96	95	41	41	43	42	140	140
Sulfate	mg/l	500	S	5.8	1.1	53	61	67	66	41	42
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.085	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	19	20
Total Organic Carbon	mg/l			2.6	2.5	ND	0.34	ND	0.34	ND	ND
Carbon Dioxide	mg/l			3.8	3.6	3.4	3.2	2.8	2.8	10	15
General Physical Properties											
Apparent Color	ACU	15	S	30	35	3	10	3	5	3	5
Lab pH	Units			8.2	8.2	8.1	8.1	8.1	8.1	7.5	7.4
Odor	TON	3	S	4	2	3	1	2	1	1	1
pH of CaCO3 saturation(25C)	Units			7.5	7.6	7.3	7.4	7.4	7.4	6.5	6.4
pH of CaCO3 saturation(60C)	Units			7.1	7.1	6.9	6.9	6.9	6.9	6.1	6
Specific Conductance	umho/cm	1600	S	620	600	520	550	540	530	4100	4000
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	210	250	ND	ND	ND	ND	3.1	4.5
Barium, Total, ICAP/MS	ug/l	1000	P	20	20	60	56	35	33	570	510
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	4.6	ND	3.1	ND	3.4	ND	12	11
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	12	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	13	7.2
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	0.76
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		12	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Gardena #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/17/2010	8/30/2010	3/17/2010	8/30/2010	3/17/2010	8/30/2010	3/17/2010	8/30/2010	3/17/2010	8/30/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	360	350	320	320	300	310	220	240	290	290
Cation Sum	meq/l			5.8	6.1	5.4	5.4	5.2	5.2	4.2	4.1	5.3	5.3
Anion Sum	meq/l			6	6.2	5.2	5.5	5.1	5.1	4.1	4.1	5.5	5.3
Iron	mg/l	0.3	S	0.18	0.028	0.036	0.041	0.048	0.055	0.029	0.036	0.051	0.046
Manganese	ug/l	50	S	29	24	36	34	50	48	44	43	67	58
Turbidity	NTU	5	S	14	0.68	0.11	0.09	0.12	0.26	0.11	0.8	6.8	8
Alkalinity	mg/l			280	290	180	190	180	180	170	180	210	200
Boron	mg/l	1	N	0.31	0.33	0.17	0.17	0.14	0.14	0.1	0.11	0.13	0.14
Bicarbonate as HCO3	mg/l			340	360	210	230	220	210	210	210	260	240
Calcium	mg/l			15	16	38	38	47	47	31	31	49	49
Carbonate as CO3	mg/l			4.1	5.6	ND	2.2	ND	ND	ND	2.2	2.3	2.6
Hardness (Total, as CaCO3)	mg/l			63	65	140	140	170	170	120	110	170	170
Chloride	mg/l	500	S	13	13	21	22	23	22	21	21	38	38
Fluoride	mg/l	2	P	0.24	0.24	0.27	0.26	0.38	0.37	0.28	0.27	0.64	0.29
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.55	0.69	0.57	0.66	0.58	0.7	0.49	0.58	0.79	0.85
Magnesium, Total, ICAP	None			6	6.2	12	12	11	12	9	8.9	11	11
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			5.3	5.5	5.7	5.8	3.6	3.7	3.1	3.2	3	3.1
Sodium, Total, ICAP	mg/l			100	110	56	55	42	42	41	41	44	44
Sulfate	mg/l	500	S	ND	ND	54	54	44	43	ND	ND	11	9.5
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3	3.3	0.49	0.67	0.35	0.63	0.53	0.81	ND	0.42
Carbon Dioxide	mg/l			3	2.4	2.7	2.5	3.5	2.5	2.6	2.2	3	2.4
General Physical Properties													
Apparent Color	ACU	15	S	20	30	5	5	3	3	5	5	3	5
Lab pH	Units			8.3	8.4	8.1	8.2	8	8.1	8.1	8.2	8.1	8.2
Odor	TON	3	S	3	3	3	2	3	2	2	2	3	3
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.5	7.5	7.4	7.4	7.6	7.6	7.3	7.4
pH of CaCO3 saturation(60C)	Units			7.3	7.2	7.1	7.1	7	7	7.2	7.2	6.9	6.9
Specific Conductance	umho/cm	1600	S	600	600	540	530	510	500	390	400	470	510
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	120	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	22	19	19	18	22	21	50	47	77	72
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		6		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Hawthorne #1											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/10/2010	9/26/2010	5/10/2010	9/26/2010	5/10/2010	9/26/2010	5/10/2010	9/26/2010	5/10/2010	9/26/2010	5/10/2010	9/26/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	920	900	820	820	640	630	460	450	980	970	1600	1600
Cation Sum	meq/l			15	15	14	14	12	11	8.2	8.1	16	17	28	27
Anion Sum	meq/l			16	15	14	14	12	12	8.1	7.9	16	16	27	28
Iron	mg/l	0.3	S	0.14	0.15	0.12	0.14	0.21	0.21	0.022	0.021	ND	0.027	0.027	0.064
Manganese	ug/l	50	S	12	13	51	51	65	66	36	35	170	190	480	480
Turbidity	NTU	5	S	0.91	0.96	2.3	0.81	0.4	0.81	1	1.3	0.46	0.46	1.9	3.3
Alkalinity	mg/l			720	700	650	650	520	510	330	320	220	220	330	320
Boron	mg/l	1	N	1.4	1.4	0.99	1	0.65	0.64	0.39	0.37	0.18	0.18	0.36	0.33
Bicarbonate as HCO3	mg/l			870	850	780	790	630	620	400	390	270	270	400	390
Calcium	mg/l			16	15	18	13	39	37	40	39	130	140	230	230
Carbonate as CO3	mg/l			7.5	8.4	9.3	10	5.4	7.1	3.4	4	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			90	92	90	69	200	190	170	170	530	550	850	830
Chloride	mg/l	500	S	46	50	49	43	43	47	52	53	340	350	460	480
Fluoride	mg/l	2	P	0.11	0.091	0.22	0.22	0.2	0.19	0.34	0.33	0.27	0.23	0.23	0.2
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.81	0.85	0.96	0.86	1.1	1.2	0.88	0.93	0.91	1.1	1.2	1.3
Magnesium, Total, ICAP	None			12	13	10	8.8	25	24	18	18	47	50	66	65
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.71	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			19	20	14	14	15	14	9.4	9.4	7.5	8.1	6.8	6.9
Sodium, Total, ICAP	mg/l			290	290	270	280	170	160	100	100	120	130	250	240
Sulfate	mg/l	500	S	ND	ND	2.6	ND	ND	ND	ND	ND	76	100	360	380
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	0.054	ND	0.072	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.71	ND
Total Organic Carbon	mg/l			12	13	15	14	6.6	6.1	2.7	2.7	1	1.1	1.5	1.4
Carbon Dioxide	mg/l			11	9.2	7.1	6.6	7.8	5.7	5	4	7.2	5.2	14	10
General Physical Properties															
Apparent Color	ACU	15	S	200	200	300	300	40	60	25	25	5	5	3	5
Lab pH	Units			8.1	8.2	8.3	8.3	8.1	8.3	8.1	8.2	7.8	7.9	7.7	7.8
Odor	TON	3	S	3	1	4	1	2	1	4	2	2	2	4	3
pH of CaCO3 saturation(25C)	Units			7.3	7.3	7.3	7.4	7.1	7.1	7.2	7.3	6.9	6.9	6.5	6.5
pH of CaCO3 saturation(60C)	Units			6.9	6.9	6.9	7	6.6	6.6	6.8	6.8	6.4	6.4	6	6.1
Specific Conductance	umho/cm	1600	S	1400	1400	1300	1300	1100	1100	770	770	1600	1700	2600	2600
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	24
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.3	2.1
Barium, Total, ICAP/MS	ug/l	1000	P	33	32	31	25	35	38	34	33	130	150	39	38
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.3	ND	2.4	1.4	1.2	ND	ND	ND	7.5	1.3	4.4	1.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	3	ND	3.3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	27
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.5	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	1
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	0.79
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	6.2
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	2.6
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	1.2
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		1.8	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Inglewood #1							
				Zone 1		Zone 3		Zone 4		Zone 5	
				4/27/2010	9/21/2010	4/27/2010	9/21/2010	4/27/2010	9/21/2010	4/27/2010	9/21/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	2500	2500	1200	1200	760	770	1200	1300
Cation Sum	meq/l			41	38	20	21	13	14	20	22
Anion Sum	meq/l			44	44	21	21	13	14	21	21
Iron	mg/l	0.3	S	0.083	0.12	0.48	0.49	0.35	0.38	ND	ND
Manganese	ug/l	50	S	18	15	350	340	200	200	2.2	ND
Turbidity	NTU	5	S	0.74	0.78	3.5	2.9	2.3	1.7	0.72	0.27
Alkalinity	mg/l			880	870	330	330	240	240	290	290
Boron	mg/l	1	N	4.4	4.2	0.44	0.43	0.2	0.19	0.24	0.27
Bicarbonate as HCO3	mg/l			1100	1100	400	400	300	290	350	350
Calcium	mg/l			140	130	140	150	100	110	180	180
Carbonate as CO3	mg/l			5.2	7.9	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			550	530	600	610	440	460	700	730
Chloride	mg/l	500	S	870	890	400	410	240	260	390	400
Fluoride	mg/l	2	P	0.25	0.23	0.42	0.4	0.36	0.34	0.2	0.19
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.6	1.8	1.1	1	0.94	0.86	0.89	0.81
Magnesium, Total, ICAP	None			50	49	57	59	45	47	63	66
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	8.2	9
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			17	15	7.5	7.9	9.6	9.3	8.1	8.7
Sodium, Total, ICAP	mg/l			660	620	190	200	100	100	140	150
Sulfate	mg/l	500	S	76	78	130	140	89	98	150	170
Surfactants	mg/l	0.5	S	0.13	0.11	0.074	ND	ND	ND	0.054	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	8.2	9
Total Organic Carbon	mg/l			41	41	1.1	1.1	0.56	0.69	0.66	0.75
Carbon Dioxide	mg/l			24	15	11	12	6.3	7.4	16	21
General Physical Properties											
Apparent Color	ACU	15	S	150	130	10	10	10	10	ND	60
Lab pH	Units			7.9	8.1	7.8	7.7	7.9	7.8	7.6	7.4
Odor	TON	3	S	3	4	1	1	2	1	2	ND
pH of CaCO3 saturation(25C)	Units			6.3	6.3	6.7	6.7	7	6.9	6.7	6.6
pH of CaCO3 saturation(60C)	Units			5.8	5.9	6.2	6.2	6.5	6.5	6.2	6.2
Specific Conductance	umho/cm	1600	S	4400	4200	2100	2100	1400	1400	2100	2100
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	7.4	4.8	1.7	1.3	1.2	1.4	1.9	1.6
Barium, Total, ICAP/MS	ug/l	1000	P	270	260	46	46	110	120	230	230
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	4.5	2.5	3	ND	4	2.4
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	30	17	5.2	6.7	ND	ND	8.4	9.5
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	0.93	0.91	ND	ND	ND	ND	0.9	0.91
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Lomita #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/24/2010	8/25/2010	3/24/2010	8/25/2010	3/24/2010	8/25/2010	3/24/2010	8/25/2010	3/24/2010	8/25/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	2000	1700	1200	1400	910	980	590	770	1700	1400
Cation Sum	meq/l			28	31	19	21	16	17	12	14	24	25
Anion Sum	meq/l			27	29	19	20	15	16	11	12	24	24
Iron	mg/l	0.3	S	0.16	0.16	0.1	ND	0.039	ND	0.035	ND	0.13	0.13
Manganese	ug/l	50	S	480	500	230	260	150	180	110	130	340	340
Turbidity	NTU	5	S	2.3	1.7	3.9	9	2.9	6	1.7	1.3	1.6	1.4
Alkalinity	mg/l			260	270	260	270	300	300	260	260	280	280
Boron	mg/l	1	N	0.68	0.74	0.47	0.5	0.39	0.39	0.38	0.42	0.55	0.56
Bicarbonate as HCO3	mg/l			320	330	320	320	360	370	320	310	350	340
Calcium	mg/l			230	270	140	160	100	120	77	96	190	200
Carbonate as CO3	mg/l			ND	ND	ND	ND	2.2	ND	2.4	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			840	950	520	600	380	430	280	350	710	740
Chloride	mg/l	500	S	770	840	460	510	310	330	180	240	650	640
Fluoride	mg/l	2	P	0.099	0.082	0.14	0.11	0.14	0.13	0.22	0.19	0.087	0.086
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.2	1.2	1.1	1.1	1.1	1.1	1	0.94	1.2	1.2
Magnesium, Total, ICAP	None			63	71	40	47	30	34	22	28	53	57
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			16	18	13	15	11	11	8.5	11	14	16
Sodium, Total, ICAP	mg/l			250	260	190	200	180	190	140	150	220	230
Sulfate	mg/l	500	S	4.7	8.2	22	30	25	28	13	17	24	26
Surfactants	mg/l	0.5	S	0.12	ND	0.067	0.053	ND	ND	ND	ND	ND	0.088
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			0.89	2.2	1.2	0.98	2.4	0.92	2.4	2.1	1.4	0.81
Carbon Dioxide	mg/l			8.7	10	7	7.7	6.4	7.4	4.5	6.3	9.4	9
General Physical Properties													
Apparent Color	ACU	15	S	10	5	15	10	15	15	30	30	5	10
Lab pH	Units			7.8	7.7	7.9	7.8	8	7.9	8.1	7.9	7.8	7.8
Odor	TON	3	S	4	3	4	4	4	4	4	3	3	2
pH of CaCO3 saturation(25C)	Units			6.6	6.5	6.8	6.7	6.9	6.8	7.1	7	6.6	6.6
pH of CaCO3 saturation(60C)	Units			6.1	6.1	6.3	6.3	6.4	6.4	6.6	6.5	6.2	6.2
Specific Conductance	umho/cm	1600	S	2900	3200	1900	2200	1600	1700	1100	1300	2500	2600
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	22	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	2.5	2	1.7	1.6	2.9	1.3	1.1	2.5	2.1
Barium, Total, ICAP/MS	ug/l	1000	P	130	130	86	93	63	67	45	54	110	110
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	7.9	4.4	3.8	2.5	3	ND	3.2	1.8	4.5	2.9
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	15	6.3	8.3	ND	ND	ND	ND	9	10
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Long Beach #3									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/10/2010	8/25/2010	3/10/2010	8/25/2010	3/10/2010	8/25/2010	3/10/2010	8/25/2010	3/10/2010	8/25/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	450	450	220	230	240	230	1800	1700	2000	1900
Cation Sum	meq/l			7.8	8.3	3.8	3.9	4.2	4.1	26	27	30	31
Anion Sum	meq/l			8	8.2	4	3.9	4.1	4.1	27	26	30	30
Iron	mg/l	0.3	S	0.04	0.047	ND	ND	0.022	0.024	0.15	0.17	0.27	0.29
Manganese	ug/l	50	S	13	13	7.8	8.3	11	11	270	260	380	400
Turbidity	NTU	5	S	0.75	0.89	0.3	0.16	0.29	0.3	1.3	0.81	2.3	1.6
Alkalinity	mg/l			380	380	150	140	160	160	150	130	140	140
Boron	mg/l	1	N	0.37	0.39	0.13	0.14	0.15	0.15	0.12	0.12	0.12	0.12
Bicarbonate as HCO3	mg/l			450	460	180	170	200	200	180	160	170	170
Calcium	mg/l			11	12	17	17	21	20	310	300	370	380
Carbonate as CO3	mg/l			10	7.1	2.7	2.5	2.5	2.1	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			41	44	54	55	66	64	1100	1100	1200	1300
Chloride	mg/l	500	S	18	17	20	19	31	31	800	780	900	920
Fluoride	mg/l	2	P	0.51	0.51	0.35	0.35	0.3	0.3	0.14	0.14	0.14	0.14
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.79	0.66	0.4	0.37	0.45	0.37	1.3	1	1.3	1.2
Magnesium, Total, ICAP	None			3.3	3.6	2.9	3	3.5	3.6	79	82	85	91
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			3.3	3.5	2	2.3	2.5	2.8	12	13	9.6	11
Sodium, Total, ICAP	mg/l			160	170	62	64	64	64	110	110	110	110
Sulfate	mg/l	500	S	ND	ND	24	23	ND	ND	67	63	70	66
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	0.11	ND	0.05	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7.6	7.9	1.2	1.4	2.4	2.8	0.54	0.61	0.64	0.59
Carbon Dioxide	mg/l			2.1	3.2	ND	ND	ND	ND	3.2	4	3.3	4.6
General Physical Properties													
Apparent Color	ACU	15	S	80	100	15	15	25	25	5	5	5	10
Lab pH	Units			8.5	8.4	8.4	8.4	8.3	8.2	8	7.8	7.9	7.8
Odor	TON	3	S	3	2	2	1	1	ND	2	ND	2	1
pH of CaCO3 saturation(25C)	Units			7.7	7.7	8	8	7.8	7.9	6.7	6.8	6.7	6.6
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.5	7.5	7.4	7.4	6.2	6.3	6.2	6.2
Specific Conductance	umho/cm	1600	S	770	760	380	380	400	400	2900	2800	3300	3300
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	27	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	ND	ND	2.6	3	3.3	3.8
Barium, Total, ICAP/MS	ug/l	1000	P	9	8.7	14	15	7.7	7.9	100	97	170	180
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.9	ND	ND	ND	ND	ND	2.6	3.6	3	4
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	14	11	16	13
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		4		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Long Beach #8					
				Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6
				9/15/2010	9/16/2010	9/16/2010	9/17/2010	9/17/2010	9/15/2010
General Mineral Characteristics									
Total Dissolved Solid (TDS)	mg/l	1000	S	690	620	900	1300	1000	1200
Cation Sum	meq/l			11	11	15	23	17	18
Anion Sum	meq/l			11	10	15	23	18	18
Iron	mg/l	0.3	S	0.18	0.18	0.2	0.18	0.38	0.92
Manganese	ug/l	50	S	19	27	30	25	130	620
Turbidity	NTU	5	S	1	1.3	1.3	0.89	57	8.5
Alkalinity	mg/l			530	460	630	400	300	210
Boron	mg/l	1	N	1.1	0.79	1.3	1	0.54	0.2
Bicarbonate as HCO3	mg/l			650	560	760	480	370	250
Calcium	mg/l			7.1	9.2	11	46	59	110
Carbonate as CO3	mg/l			11	5.3	13	4	2.4	ND
Hardness (Total, as CaCO3)	mg/l			26	36	48	250	260	440
Chloride	mg/l	500	S	24	36	87	550	410	480
Fluoride	mg/l	2	P	0.82	0.83	0.58	0.21	0.17	0.44
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.62	0.43	0.88	1	0.9	0.64
Magnesium, Total, ICAP	None			2.1	3.2	5.1	33	26	40
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND
Potassium	mg/l			ND	4	7	11	8.9	6.4
Sodium, Total, ICAP	mg/l			250	220	320	400	280	200
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	22
Surfactants	mg/l	0.5	S	ND	ND	ND	0.056	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			21	19	34	19	14	0.97
Carbon Dioxide	mg/l			4.2	6.3	4.7	6.1	5.9	9.8
General Physical Properties									
Apparent Color	ACU	15	S	750	400	400	75	75	20
Lab pH	Units			8.4	8.2	8.4	8.1	8	7.6
Odor	TON	3	S	2	2	2	2	4	2
pH of CaCO3 saturation(25C)	Units			7.8	7.7	7.5	7.1	7.1	7
pH of CaCO3 saturation(60C)	Units			7.3	7.3	7.1	6.7	6.7	6.5
Specific Conductance	umho/cm	1600	S	1000	940	1400	2500	1900	1900
Metals									
Aluminum, Total, ICAP/MS	ug/l	1000	P	21	22	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.7	1.1	1.8	2.3	3.3	4.4
Barium, Total, ICAP/MS	ug/l	1000	P	9.2	8.6	14	23	32	72
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.2	1.3	1.6	ND	ND	2.5
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	3.3	4.4	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	7.8	5.7	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	0.97	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds									
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	PM-3 Madrid							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/22/2010	9/7/2010	3/22/2010	9/7/2010	3/22/2010	9/7/2010	3/22/2010	9/7/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	410	380	330	310	660	650	920	940
Cation Sum	meq/l			6.8	7.3	5.8	5.9	10	11	14	16
Anion Sum	meq/l			7.5	7.1	6	5.7	11	11	15	15
Iron	mg/l	0.3	S	0.043	0.055	0.12	0.13	0.091	0.1	0.32	0.34
Manganese	ug/l	50	S	27	30	43	41	56	56	340	330
Turbidity	NTU	5	S	1	1.2	0.47	0.35	0.95	21	3.5	2.7
Alkalinity	mg/l			340	320	200	200	200	200	200	200
Boron	mg/l	1	N	0.34	0.36	0.12	0.12	0.2	0.22	0.38	0.42
Bicarbonate as HCO3	mg/l			410	390	250	240	240	240	240	240
Calcium	mg/l			12	13	46	46	89	93	110	130
Carbonate as CO3	mg/l			7.6	5.7	2.9	ND	2.3	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			68	75	170	170	320	340	430	470
Chloride	mg/l	500	S	24	24	67	61	230	240	340	360
Fluoride	mg/l	2	P	0.3	0.28	0.36	0.35	0.32	0.3	0.29	0.28
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.7	0.61	0.87	0.64	1.1	0.77	1	0.75
Magnesium, Total, ICAP	None			9.2	10	13	13	25	26	34	37
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			12	13	3.2	3.3	5	5.2	6.2	6.5
Sodium, Total, ICAP	mg/l			120	130	54	55	87	93	130	150
Sulfate	mg/l	500	S	ND	ND	ND	ND	3	2.6	49	54
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3	3.1	0.51	0.57	0.72	0.84	0.88	0.96
Carbon Dioxide	mg/l			2.4	2.9	2.2	3.6	2.7	5.3	3.6	8
General Physical Properties											
Apparent Color	ACU	15	S	30	40	5	5	5	10	10	10
Lab pH	Units			8.5	8.4	8.3	8	8.2	7.9	8	7.7
Odor	TON	3	S	4	1	3	ND	3	3	4	1
pH of CaCO3 saturation(25C)	Units			7.7	7.7	7.4	7.4	7.1	7.1	7	7
pH of CaCO3 saturation(60C)	Units			7.3	7.3	6.9	7	6.7	6.7	6.6	6.5
Specific Conductance	umho/cm	1600	S	670	670	590	570	1100	1100	1500	1600
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	ND	1	ND	5.2	4.8
Barium, Total, ICAP/MS	ug/l	1000	P	21	21	20	19	62	61	79	79
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	1.1	ND	3.1	2	3.6	2.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	1.4	0.72
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	5.5	2.8	19	7.3
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	0.83	0.8	1.5	1.3
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	0.87	0.57
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	PM-4 Mariner							
				Zone 1		Zone 2		Zone 3		Zone 4	
				3/28/2010	8/29/2010	3/28/2010	8/29/2010	3/28/2010	8/29/2010	3/28/2010	8/29/2010
General Mineral Characteristics											
Total Dissolved Solid (TDS)	mg/l	1000	S	340	350	12000	15000	630	670	660	640
Cation Sum	meq/l			6.3	6	210	210	10	11	11	11
Anion Sum	meq/l			6	6	220	210	10	11	11	10
Iron	mg/l	0.3	S	0.072	0.064	0.21	0.22	0.025	0.023	0.15	0.16
Manganese	ug/l	50	S	35	32	1000	1000	31	32	80	81
Turbidity	NTU	5	S	0.085	0.09	1.7	1.5	1.1	1.5	0.39	0.54
Alkalinity	mg/l			260	260	160	160	170	200	200	200
Boron	mg/l	1	N	0.2	0.18	0.28	0.26	0.3	0.27	0.26	0.25
Bicarbonate as HCO3	mg/l			310	320	190	190	210	240	240	250
Calcium	mg/l			29	28	1500	1500	36	37	77	74
Carbonate as CO3	mg/l			3.8	3.1	ND	ND	2.4	2.7	2	ND
Hardness (Total, as CaCO3)	mg/l			120	120	5800	5600	130	130	280	270
Chloride	mg/l	500	S	28	27	7100	6600	110	110	120	110
Fluoride	mg/l	2	P	0.37	0.33	0.1	0.087	0.73	0.71	0.3	0.27
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.78	0.67	1.4	1.4	0.68	0.74	0.93	0.9
Magnesium, Total, ICAP	None			12	12	480	450	9.4	9.9	20	20
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			7.3	6.9	61	61	6.2	6.2	6.4	6.2
Sodium, Total, ICAP	mg/l			83	81	2200	2200	180	190	120	120
Sulfate	mg/l	500	S	ND	ND	800	860	170	170	160	150
Surfactants	mg/l	0.5	S	ND	ND	0.052	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			1.2	1.7	1.2	1.1	2	1.9	0.94	1
Carbon Dioxide	mg/l			2.8	3.5	13	13	ND	2.2	3	3.3
General Physical Properties											
Apparent Color	ACU	15	S	10	10	5	5	30	30	5	10
Lab pH	Units			8.3	8.2	7.4	7.4	8.3	8.2	8.1	8.1
Odor	TON	3	S	2	1	2	2	4	1	4	2
pH of CaCO3 saturation(25C)	Units			7.5	7.5	6	6	7.6	7.5	7.2	7.2
pH of CaCO3 saturation(60C)	Units			7	7.1	5.5	5.5	7.1	7.1	6.7	6.7
Specific Conductance	umho/cm	1600	S	600	570	19000	19000	1000	1100	1100	1000
Metals											
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	21	28	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	22	19	220	210	67	67	51	47
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	ND	11	15	1.6	3.5	1.3	1.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	4.4	3.6	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	11	12	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	36	39	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds											
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	PM-5 Columbia Park											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				6/17/2010	9/13/2010	6/17/2010	9/13/2010	6/17/2010	9/13/2010	6/17/2010	9/13/2010	6/17/2010	9/13/2010	6/17/2010	9/13/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	1000	1000	1100	1100	510	520	370	380	3700	3800	800	810
Cation Sum	meq/l			16	16	20	19	8.2	8.9	6.7	7.2	55	53	13	14
Anion Sum	meq/l			17	17	19	19	9.3	9.2	6.8	6.9	55	55	13	13
Iron	mg/l	0.3	S	0.13	0.16	0.26	0.29	0.031	0.046	0.061	0.025	0.1	0.12	ND	ND
Manganese	ug/l	50	S	55	70	24	37	36	34	19	17	380	480	140	130
Turbidity	NTU	5	S	1.6	0.49	2.3	1	0.68	1.3	0.51	1.7	0.76	0.71	0.66	1.2
Alkalinity	mg/l			700	700	930	920	420	420	290	300	170	170	220	230
Boron	mg/l	1	N	2.4	2.6	1.9	1.9	0.32	0.36	0.18	0.21	0.2	0.22	0.18	0.2
Bicarbonate as HCO3	mg/l			860	850	1100	1100	510	510	360	360	210	210	270	280
Calcium	mg/l			14	13	7.8	8.3	12	13	22	24	500	460	97	110
Carbonate as CO3	mg/l			8.2	8.6	14	13	7.3	7.2	3.9	4.1	ND	ND	2.2	2.3
Hardness (Total, as CaCO3)	mg/l			63	59	42	42	55	59	100	110	1700	1700	340	370
Chloride	mg/l	500	S	95	100	16	14	30	30	31	31	1600	1600	180	180
Fluoride	mg/l	2	P	0.56	0.64	0.29	0.32	0.25	0.27	0.3	0.32	0.12	0.13	0.28	0.3
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			0.81	0.8	0.78	0.78	0.67	0.7	0.68	0.73	1.3	1.2	1.1	1.1
Magnesium, Total, ICAP	None			6.6	6.2	5.5	5.3	6.4	6.7	11	12	110	120	24	25
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			13	12	11	10	12	14	9.8	11	15	17	6.1	6.4
Sodium, Total, ICAP	mg/l			340	340	380	400	160	170	100	110	480	440	140	140
Sulfate	mg/l	500	S	3.1	5.9	2.5	2.1	1.5	1.3	2.9	1.5	310	300	180	170
Surfactants	mg/l	0.5	S	ND	0.064	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			38	38	32	36	6.3	6.2	2.9	2.9	0.7	0.66	1.1	1.2
Carbon Dioxide	mg/l			9.5	9	9.7	10	3.8	3.8	3.5	3.4	7.1	7.2	3.6	3.6
General Physical Properties															
Apparent Color	ACU	15	S	300	300	600	750	50	60	20	25	ND	5	3	5
Lab pH	Units			8.2	8.2	8.3	8.3	8.3	8.3	8.2	8.2	7.7	7.7	8.1	8.1
Odor	TON	3	S	40	2	8	2	2	1	2	1	2	1	1	1
pH of CaCO3 saturation(25C)	Units			7.4	7.4	7.5	7.5	7.7	7.6	7.5	7.5	6.4	6.5	7	7
pH of CaCO3 saturation(60C)	Units			6.9	6.9	7.1	7	7.2	7.2	7.1	7.1	6	6	6.6	6.5
Specific Conductance	umho/cm	1600	S	1600	1600	1700	1700	860	860	650	640	5400	5400	1300	1300
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	47	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	1.7	3	5.1	ND	ND	1.5	1.4	5.3	7.8	3.4	2.1
Barium, Total, ICAP/MS	ug/l	1000	P	55	84	16	25	22	23	15	14	200	190	170	160
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	1.1	2.5	3.1	ND	ND	ND	ND	8.6	4.8	2.1	1.3
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	6.1	ND	ND	ND	ND	ND	ND	ND	11	8.5	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	PM-6 Madrona Marsh											
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5		Zone 6	
				5/6/2010	9/1/2010	5/6/2010	9/1/2010	5/6/2010	9/1/2010	5/6/2010	9/1/2010	5/6/2010	9/1/2010	5/6/2010	9/1/2010
General Mineral Characteristics															
Total Dissolved Solid (TDS)	mg/l	1000	S	1300	1600	4500	4600	14000	13000	390	390	4000	4100	960	950
Cation Sum	meq/l			21	28	68	72	160	180	6.5	6.4	57	57	15	15
Anion Sum	meq/l			22	28	71	72	190	190	6.4	6.4	59	60	15	16
Iron	mg/l	0.3	S	0.057	0.06	0.09	0.1	0.1	0.16	0.051	0.05	1.2	1.3	0.21	0.25
Manganese	ug/l	50	S	70	71	160	190	380	350	41	62	990	1200	220	230
Turbidity	NTU	5	S	6.3	20	0.26	1	23	20	0.2	0.5	12	12	0.91	1.4
Alkalinity	mg/l			500	490	140	140	120	170	250	240	210	200	190	190
Boron	mg/l	1	N	0.8	0.8	0.56	0.55	0.29	0.29	0.27	0.27	0.23	0.22	0.19	0.18
Bicarbonate as HCO3	mg/l			610	590	170	170	140	200	300	300	250	250	230	240
Calcium	mg/l			62	97	170	170	1100	1100	17	17	530	510	120	120
Carbonate as CO3	mg/l			5.5	5.1	ND	ND	ND	ND	3.2	3.6	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			350	550	790	770	4900	5800	85	85	1900	1900	450	440
Chloride	mg/l	500	S	440	650	2400		6500	6700	52	52	1800	1900	310	320
Fluoride	mg/l	2	P	0.49	0.47	0.085	0.081	0.097	0.096	0.55	0.55	0.14	0.13	0.22	0.22
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.3	1.4	0.95	0.91	1.7	2	0.49	0.53	1.2	1.3	0.91	0.95
Magnesium, Total, ICAP	None			49	75	87	85	780	770	10	10	150	150	35	35
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			12	15	43	44	95	98	6	5.7	22	21	7.4	7.3
Sodium, Total, ICAP	mg/l			310	380	1300	1300	1400	1500	110	100	420	430	140	140
Sulfate	mg/l	500	S	2.8	7.2	ND		45	6.6	0.5	ND	130	150	130	140
Surfactants	mg/l	0.5	S	0.052	ND	ND	ND	ND	ND	ND	ND	0.054	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			7	7.2	1	1.1	1.6	1.6	2.4	2.3	1	0.99	1.4	1.3
Carbon Dioxide	mg/l			7.3	7.3	3.2	3.4	2.9	2.3	2.9	2.6	13	9.6	4.8	4.4
General Physical Properties															
Apparent Color	ACU	15	S	150	200	10	10	30	100	20	25	25	20	5	10
Lab pH	Units			8.1	8.1	7.9	7.9	7.9	8.2	8.2	8.3	7.5	7.6	7.9	7.9
Odor	TON	3	S	3	3	3	1	200	4	2	1	1	1	1	1
pH of CaCO3 saturation(25C)	Units			6.9	6.7	7	7	6.3	6.1	7.7	7.7	6.3	6.3	7	7
pH of CaCO3 saturation(60C)	Units			6.4	6.2	6.5	6.6	5.8	5.7	7.3	7.3	5.9	5.9	6.5	6.5
Specific Conductance	umho/cm	1600	S	2300	2800	7700	7600	18000	17000	630	640	5800	5800	1600	1600
Metals															
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.5	ND	12	6.5	26	17	1.5	ND	13	7.4	4.4	3.2
Barium, Total, ICAP/MS	ug/l	1000	P	170	270	440	490	2200	2500	15	18	190	210	33	35
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.5	1.1	27	4.1	35	11	3.1	ND	13	3	4.4	1.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	4.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	5.6	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	6.2	ND	18	14	120	64	ND	ND	13	9.8	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds															
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Westchester #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				3/25/2010	9/13/2010	3/25/2010	9/13/2010	3/25/2010	9/13/2010	3/25/2010	9/13/2010	3/25/2010	9/13/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	900	990	740	730	600	600	550	590	560	560
Cation Sum	meq/l			16	18	13	13	11	11	10	11	9.6	9.7
Anion Sum	meq/l			16	17	13	13	11	11	10	8.4	9.7	9.8
Iron	mg/l	0.3	S	0.19	0.22	0.12	0.13	0.19	0.2	0.12	0.13	0.28	0.28
Manganese	ug/l	50	S	110	95	54	48	130	130	120	110	160	160
Turbidity	NTU	5	S	0.44	0.44	0.66	0.7	0.31	0.33	0.35	0.45	1	0.76
Alkalinity	mg/l			630	690	550	540	460	460	350	360	300	310
Boron	mg/l	1	N	1.1	1.3	0.84	0.85	0.47	0.49	0.25	0.25	0.23	0.23
Bicarbonate as HCO3	mg/l			760	830	670	650	560	560	430	430	370	370
Calcium	mg/l			60	56	31	31	45	46	71	71	66	67
Carbonate as CO3	mg/l			6.4	6.4	6.5	5.9	4.4	3.9	3.5	3.2	2.5	2.4
Hardness (Total, as CaCO3)	mg/l			260	240	150	150	200	200	300	300	270	280
Chloride	mg/l	500	S	95	100	67	68	61	61	64	25	67	67
Fluoride	mg/l	2	P	0.27	0.25	0.27	0.25	0.26	0.24	0.26	0.25	0.32	0.31
Hydroxide as OH	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Langelier Index - 25 degree	None			1.3	1.3	1	1	1	0.99	1.1	1.1	0.95	0.95
Magnesium, Total, ICAP	None			25	25	17	18	21	21	29	29	26	27
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			12	13	15	15	12	12	9	9.3	7.1	7.2
Sodium, Total, ICAP	mg/l			240	290	220	220	150	150	97	99	91	91
Sulfate	mg/l	500	S	38	31	ND	ND	ND	0.85	73	29	81	82
Surfactants	mg/l	0.5	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			18	23	8.1	8.6	3.7	3.8	1.6	1.7	1.3	1.4
Carbon Dioxide	mg/l			9.7	12	7.4	7.8	7.6	8.5	5.8	6.3	5.9	6.1
General Physical Properties													
Apparent Color	ACU	15	S	300	400	100	80	25	35	10	10	15	15
Lab pH	Units			8.1	8.1	8.2	8.1	8.1	8	8.1	8.1	8	8
Odor	TON	3	S	4	3	3	2	4	3	2	2	2	3
pH of CaCO3 saturation(25C)	Units			6.8	6.8	7.1	7.1	7	7	7	7	7.1	7
pH of CaCO3 saturation(60C)	Units			6.3	6.3	6.7	6.7	6.6	6.6	6.5	6.5	6.6	6.6
Specific Conductance	umho/cm	1600	S	1500	1600	1200	1200	1100	1000	1000	980	940	920
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	1.1	ND	ND	ND	1.1	ND	ND	ND	1.3	1.2
Barium, Total, ICAP/MS	ug/l	1000	P	93	97	130	140	71	68	74	72	61	60
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	1.3	1.5	ND	ND	1.7	ND	1.1	ND	1.1	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	2.4	ND	2.1	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND		ND		ND		ND		ND	

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Wilmington #1									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/22/2010	8/18/2010	2/22/2010	8/18/2010	2/22/2010	8/18/2010	2/22/2010	8/18/2010	2/22/2010	8/18/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	650	620	1900	2100	1800	2100	1200	1100	1900	1000
Cation Sum	meq/l			11	10	31	29	29	31	20	18	31	18
Anion Sum	meq/l			11	11	30	30	29	33	19	18	30	17
Iron	mg/l	0.3	S	ND	ND	0.051	0.052	ND	ND	ND	ND	0.051	0.25
Manganese	ug/l	50	S	24	25	30	30	ND	10	16	16	29	81
Turbidity	NTU	5	S	0.36	0.13	0.46	0.32	0.52	0.21	0.2	0.12	0.24	6.6
Alkalinity	mg/l			150	140	140	150	140	130	150	150	150	180
Boron	mg/l	1	N	0.21	0.21	0.2	0.21	0.25	0.24	0.24	0.24	0.2	0.2
Bicarbonate as HCO3	mg/l			190	170	170	180	170	160	190	190	180	220
Calcium	mg/l			62	61	250	230	170	190	95	91	250	140
Carbonate as CO3	mg/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hardness (Total, as CaCO3)	mg/l			240	240	870	810	620	680	380	370	890	540
Chloride	mg/l	500	S	270	270	860	870	840	990	400	370	870	350
Fluoride	mg/l	2	P	0.12	0.14	0.055	0.057	0.071	0.072	0.1	0.11	0.056	0.12
Hydroxide as OH	mg/l			ND		ND		ND		ND		ND	
Langelier Index - 25 degree	None			0.8	0.57	1.2	0.89	0.98	0.75	0.92	0.7	1.2	0.84
Magnesium, Total, ICAP	None			20	20	60	56	46	50	34	33	61	47
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			7.9	7.8	9.7	9.3	9.2	9.4	7.3	6.9	9.9	7.6
Sodium, Total, ICAP	mg/l			130	130	280	290	370	380	270	250	280	150
Sulfate	mg/l	500	S	ND	ND	110	110	110	110	220	220	120	180
Surfactants	mg/l	0.5	S	0.39	0.46	0.55	0.34	0.46	0.42	0.22	0.16	0.56	0.49
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			3.2	3.2	3.2	1.8	2	1.8	2.2	2.2	1.9	5.2
Carbon Dioxide	mg/l			2		2.9		3.5		2.4		3.2	
General Physical Properties													
Apparent Color	ACU	15	S	3	5	3	5	5	10	5	5	3	5
Lab pH	Units			8.2	8	8	7.7	8	7.7	8.1	7.9	8	7.8
Odor	TON	3	S	8	100	8	4	8	100	17	67	17	100
pH of CaCO3 saturation(25C)	Units			7.4	7.4	6.8	6.8	7	7	7.2	7.2	6.8	7
pH of CaCO3 saturation(60C)	Units			6.9	7	6.4	6.4	6.5	6.5	6.7	6.8	6.3	6.5
Specific Conductance	umho/cm	1600	S	1100	1100	3100	3100	3000	3300	2000	1900	3100	1800
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	ND	2.7	ND	ND	ND	ND	ND	ND
Barium, Total, ICAP/MS	ug/l	1000	P	12	12	18	18	26	29	40	40	18	110
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	ND	2.5	4.4	4.7	ND	6.7	2.6	3.1	4.2	ND
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	ND	ND	ND	ND	ND	ND	10	ND
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.2
WEST COAST BASIN WATER QUALITY RESULTS
REGIONAL GROUNDWATER MONITORING - WATER YEAR 2009/2010
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Constituents	Units	MCL	MCL Type	Wilmington #2									
				Zone 1		Zone 2		Zone 3		Zone 4		Zone 5	
				2/23/2010	8/17/2010	2/23/2010	8/17/2010	2/23/2010	8/17/2010	2/23/2010	8/17/2010	2/23/2010	8/17/2010
General Mineral Characteristics													
Total Dissolved Solid (TDS)	mg/l	1000	S	510	490	1500	1500	380	400	880	870	5700	5500
Cation Sum	meq/l			8.5	8.6	25	26	7.1	7	24	14	91	88
Anion Sum	meq/l			8.7	8.8	26	26	6.6	6.9	13	15	93	89
Iron	mg/l	0.3	S	0.069	0.087	0.068	0.072	ND	ND	0.068	ND	ND	ND
Manganese	ug/l	50	S	4.2	ND	12	11	9.1	8.7	13	ND	83	70
Turbidity	NTU	5	S	0.45	0.31	0.46	0.28	0.12	0.24	14	3.2	0.7	0.096
Alkalinity	mg/l			370	370	490	500	160	160	270	280	170	180
Boron	mg/l	1	N	0.64	0.65	1.8	1.8	0.19	0.16	1.8	0.58	0.6	0.54
Bicarbonate as HCO3	mg/l			450	450	600	600	190	190	330	340	210	220
Calcium	mg/l			3.1	3.2	31	32	28	28	31	35	320	300
Carbonate as CO3	mg/l			10	11	5.1	5	ND	ND	2.3	2.2	ND	ND
Hardness (Total, as CaCO3)	mg/l			17	18	170	170	110	110	170	150	1400	1300
Chloride	mg/l	500	S	43	45	570	550	120	130	270	310	2900	2700
Fluoride	mg/l	2	P	0.97	0.93	0.34	0.33	0.25	0.23	0.69	0.69	0.18	0.18
Hydroxide as OH	mg/l			ND		ND		ND		ND		ND	
Langelier Index - 25 degree	None			0.25	0.31	0.94	0.94	0.43	0.41	0.58	0.64	1	1.1
Magnesium, Total, ICAP	None			2.2	2.4	22	23	10	11	22	16	140	140
Mercury	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrate-N by IC	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrite, Nitrogen by IC	mg/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Potassium	mg/l			4.6	4.9	12	12	5.2	5.1	11	6.5	24	21
Sodium, Total, ICAP	mg/l			190	190	490	510	110	110	470	250	1400	1400
Sulfate	mg/l	500	S	ND	ND	ND	ND	ND	ND	1.3	4.8	420	390
Surfactants	mg/l	0.5	S	ND	ND	0.061	ND	ND	ND	ND	ND	0.12	ND
Total Nitrate, Nitrite-N, Calc.	mg/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Organic Carbon	mg/l			17	11	18	18	2	2	9.4	2	1.3	1.2
Carbon Dioxide	mg/l			2.1		7.4		2.2		5.2		7.3	
General Physical Properties													
Apparent Color	ACU	15	S	300	300	150	150	20	15	80	50	15	20
Lab pH	Units			8.6	8.6	8.1	8.1	8.2	8.1	8	8	7.7	7.7
Odor	TON	3	S	2	3	2	3	4	3	17	8	8	4
pH of CaCO3 saturation(25C)	Units			8.3	8.3	7.2	7.2	7.7	7.7	7.4	7.4	6.6	6.6
pH of CaCO3 saturation(60C)	Units			7.9	7.8	6.7	6.7	7.3	7.3	7	6.9	6.2	6.2
Specific Conductance	umho/cm	1600	S	820	830	2600	2600	730	750	1600	1600	9100	8800
Metals													
Aluminum, Total, ICAP/MS	ug/l	1000	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Antimony, Total, ICAP/MS	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic, Total, ICAP/MS	ug/l	10	P	ND	ND	3.8	ND	ND	ND	4.2	ND	5.4	6.9
Barium, Total, ICAP/MS	ug/l	1000	P	4.9	ND	48	46	11	11	51	27	71	69
Beryllium, Total, ICAP/MS	ug/l	4	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium, Total, ICAP/MS	ug/l	50	P	2.1	ND	ND	5.9	ND	1.3	ND	ND	14	7.2
Cadmium, Total, ICAP/MS	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper, Total, ICAP/MS	ug/l	1300	P	ND	ND	4.5	ND	ND	ND	4.6	ND	ND	ND
Lead, Total, ICAP/MS	ug/l	15	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel, Total, ICAP/MS	ug/l	100	P	ND	ND	ND	ND	ND	ND	ND	ND	11	ND
Selenium, Total, ICAP/MS	ug/l	50	P	ND	ND	14	ND	ND	ND	15	ND	27	14
Silver, Total, ICAP/MS	ug/l	100	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium, Total, ICAP/MS	ug/l	2	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc, Total, ICAP/MS	ug/l	5000	S	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Compounds													
Trichloroethylene (TCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	ug/l	10	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	ug/l			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ug/l	0.5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 11	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ug/l	1200	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	ug/l	770	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	ug/l	260	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m,p-Xylenes	ug/l	1750	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	ug/l	5	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/l	150	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ug/l	1000	N	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/l	1	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl benzene	ug/l	300	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Perchlorate	ug/l	6	P	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

MCL: Maximum Contaminant Level, bold value indicates concentration exceeds MCL. (P): Primary MCL (S): Secondary MCL (N): Notification Level (ND): Not Detected

TABLE 3.3
QUALITY OF REPLENISHMENT WATER

Page 1 of 2

Constituent	Units	Regulatory Limit	IMPORTED WATER			RECYCLED WATER							LOCAL WATER
			Treated Colorado River & State Project Water ^A	Untreated Colorado River Water ^B	Untreated State Project Water ^C	West Basin MWD WRP ^D	Terminal Island Treatment Plant ^E	WRD Vander Lans WRP ^F	LACSD Pomona WRP ^G	LACSD San Jose Creek East WRP ^G	LACSD San Jose Creek West WRP ^G	LACSD Whittier Narrows WRP ^G	Stormwater ^H
			2009	2009	2009	2009	2009	2009	2009-2010	2009-2010	2009-2010	2009-2010	2009-2010
Arsenic	µg/L	MCL = 10	2.2 / 3.1	2.6	3.9	ND	0.23	ND	0.295	ND	0.993	1.26	2.20
Chloride	mg/L	SMCL = 500	90 ^I / 77 ^I	90 ^I	75 ^I	70 ^J	84 ^K	62.5 ^L	126	150	108	116	42.7
Iron	µg/L	SMCL = 300	ND / ND	ND	ND	ND	7.7	ND	26	74	38	25	3,923
Manganese	µg/L	SMCL = 50	ND / ND	ND	ND	ND	3.0	ND	5.47	27.3	12.4	4.65	NA
Nitrate (as N)	mg/L	MCL = 10	0.4 / 0.8	0.3	0.8	0.5 ^J	0.95	0.75 ^L	6.69	3.54	7.77	6.76	2.2
Perchlorate	µg/L	MCL = 6	ND / ND	1.4	ND	ND	ND	ND	NA	NA	NA	NA	NA
Tetrachloroethylene (PCE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA
Trichloroethylene (TCE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	NA
Total Dissolved Solids (TDS)	mg/L	SMCL = 1,000	559 ^I / 316 ^I	623 ^I	303 ^I	444 ^J	314 ^K	389 ^L	536	618	527	579	271
Total Organic Carbon (TOC)	mg/L	None	2.3 / 1.7	2.67 ^I	1.88 ^I	0.20	0.49	0.48	6.38	6.16	4.90	5.46	10.8
Alkalinity	mg/L	None	112 ^I / 87 ^I	128 ^I	84 ^I	47.8	NA	NA	169	168	158	166	72
Boron	µg/L	NL = 1,000	130 / 200	130	210	210 ^J	462 ^K	210 ^L	270	330	400	260	NA
Chromium, Total	µg/L	MCL = 50	ND / ND	ND	ND	0.5	0.58	ND	0.98	0.56	1.0	1.7	5.82
Chromium VI	µg/L	None	0.13 / 0.50	ND	0.49	NA	NA	NA	ND	ND	ND	ND	ND
Copper, Total	µg/L	SMCL = 1,000	ND / ND	ND	ND	2.9	2.8	ND	5.13	2.80	5.00	4.75	19.9
1,4-Dioxane	ug/L	NL = 1	NA	NA	NA	ND	ND	ND	NA	NA	NA	NA	NA
Hardness	mg/L	None	253 ^I / 119 ^I	310 ^I	119 ^I	31	45.2	4	203	232	197	204	103
Lead, Total	µg/L	AL = 15	ND / ND	ND	ND	ND	1.02	ND	0.43	0.045	ND	0.32	9.2
Methyl tertiary butyl ether (MTBE)	µg/L	MCL = 5	ND / ND	ND	NA	ND	ND	ND	NA	NA	NA	NA	ND
Nitrite (as N)	mg/L	MCL = 1	ND / ND	ND	ND	0.13 ^J	ND	0.022 ^L	0.088	0.013	0.00083	0.056	0.02
n-Nitrosodimethylamine (NDMA)	ng/L	NL = 10	ND / 3	NA	NA	4.3	11.2	7	129	156	101	322	ND
pH	pH Units	None	7.9 / 8.2	8.2	7.9	7.6	7.4	7.98	7.4	7	7.1	7.4	7.32
Selenium	µg/L	MCL = 50	ND / ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND	1.88
Specific Conductance	µS/cm	SMCL = 1,600	923 ^I / 564 ^I	1,010 ^I	542 ^I	59.1	337	104	NA	NA	NA	NA	406
Sulfate	mg/L	SMCL = 500	209 ^I / 61 ^I	244 ^I	56 ^I	146 ^J	83 ^K	134 ^L	63.5	112	83.2	99.2	55.4
Turbidity	NTU	SMCL = 5	0.05 ^I / 0.04 ^I	1.27 ^I	1.08 ^I	0.07	0.05	0.10	0.8	0.7	0.6	0.84	58

See footnotes on following page.

TABLE 3.3 QUALITY OF REPLENISHMENT WATER

Page 2 of 2

Notes:

A = Used at the seawater intrusion barriers: generally, Weymouth Plant effluent (to the Dominguez Gap and Alamitos Barriers) / Jensen Plant effluent (to the West Coast Barrier)

B = Used at the Montebello Forebay spreading grounds (Lake Mathews)

C = Used at the Montebello Forebay spreading grounds (Castaic Lake)

D = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the West Coast Basin Barrier

E = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the Dominguez Gap Barrier

F = Effluent of treatment plant before blending with treated Colorado River/State Project water; used at the Alamitos Barrier

G = Effluent of treatment plant; used at the Montebello Forebay spreading grounds

H = Average of water samples collected from LACDPW San Gabriel River Monitoring Station S14 from October 2009 through January 2010 (4 storm events total)

I = Average concentration for Water Year October 2009 through September 2010

J = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water), which is delivered to the West Coast Basin Barrier

K = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water), which is delivered to the Dominguez Gap Barrier

L = Average concentration in blended water (treatment plant effluent and treated Colorado River/State Project water); directly used at the Alamitos Barrier

NA = Not Available/Analyzed

ND = Not Detected

mg/L = milligrams per liter

µg/L = micrograms per liter

NTU = Nephelometric Turbidity Units

µS/cm = microSiemen per centimeter or micromho per centimeter (µmho/cm)

MCL = Maximum Contaminant Level

SMCL = Secondary Maximum Contaminant Level

AL = Action Level

NL = Notification Level

WRP = Water Reclamation Plant

Sources of Data:

2009 Water Quality Report to MWD Member Agencies (Metropolitan Water District of Southern California, March 2010)

October 2009 - September 2010 Annual Monitoring Report, Montebello Forebay Groundwater Recharge (County Sanitation Districts of Los Angeles County [LACSD], December 2010)

2009 Annual Report, West Coast Basin Barrier Project, Edward C. Little Water Recycling Facility (West Basin Municipal Water District [West Basin MWD], March 2010)

2009-2010 Stormwater Monitoring Report, Los Angeles County (Los Angeles County Department of Public Works [LACDPW], August 2010)

2009 Annual Summary Report, Harbor Water Recycling/Dominguez Gap Barrier Project (Los Angeles Department of Water and Power [LADWP], March 2010)

2009 Annual Monitoring Report, Alamitos Barrier Recycled Water Project, Leo J. Vander Lans Water Treatment Facility (Water Replenishment District of Southern California [WRD], April 2010)

TABLE 3.4
MAJOR MINERAL WATER QUALITY GROUPS

NESTED MONITORING WELL LOCATIONS	GROUP A ZONES Generally Calcium Bicarbonate or Calcium Bicarbonate/Sulfate Dominant	GROUP B ZONES Generally Calcium-Sodium Bicarbonate or Sodium- Bicarbonate Dominant	GROUP C ZONES Generally Sodium-Chloride Dominant	OTHER ZONES Generally Different Than Groups A, B, and C
CENTRAL BASIN				
Bell #1	2, 3, 4, 5, 6	1		
Bell Gardens #1	1, 2, 3, 4, 5, 6			
Cerritos #1	1, 2, 3, 4, 5, 6			
Cerritos #2	1, 2, 3, 4, 5, 6			
Commerce #1	2, 3, 4, 5, 6			
Compton #1	2, 3, 4, 5	1		
Compton #2	3, 4, 5	1		
Downey #1	2, 3, 4, 5, 6	1		
Huntington Park #1	1, 2, 3, 4			
Inglewood #2		1, 3	2	
Lakewood #1	6	1, 2, 3, 4, 5		
La Mirada #1		1, 2, 3, 4		5
Long Beach #1	5, 6	1, 2, 3, 4		
Long Beach #2	4, 5, 6	1, 2, 3		
Long Beach #6		1, 2, 3, 4, 5, 6		
Los Angeles #1	1, 2, 3, 4, 5			
Los Angeles #2				
Montebello #1	3, 4, 5	1, 2		
Norwalk #1	4, 5	1, 2, 3		
Norwalk #2	3, 4, 5, 6	1, 2		
Rio Hondo #1	1, 2, 3, 4, 5, 6,			
Pico #1	2, 3, 4			1
Pico #2	1, 2, 3, 4, 5, 6			
South Gate #1	1, 2, 3, 4, 5			
Willowbrook #1	2, 3, 4	1		
Whittier #1	1, 2, 3, 4, 5			
Whittier #2	1, 3, 4, 5, 6	2		
WEST COAST BASIN				
Carson #1	3, 4	1, 2		
Carson #2	1, 2, 3, 4, 5			
Gardena #1	2, 3, 4			1
Gardena #2	2, 3, 4, 5	1		
Hawthorne #1	5, 6	1, 2, 3, 4		
Inglewood #1	3, 4, 5			1
Lomita #1				1, 2, 3, 4, 5, 6
Long Beach #3		1, 2, 3	4, 5	
PM-3 Madrid	3, 4	2		1
PM-4 Mariner			2, 3, 4	1
Westchester #1		1, 2, 3, 4, 5		
Wilmington #1			1, 2, 3, 4, 5	
Wilmington #2		3	4, 5	

FIGURES

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Figure 1.1
WATER
REPLENISHMENT
DISTRICT OF
SOUTHERN CALIFORNIA



4040 Paramount Boulevard
 Lakewood, CA 90712
 (562) 921-5521
 (562) 921-6101 (fax)
www.wrd.org

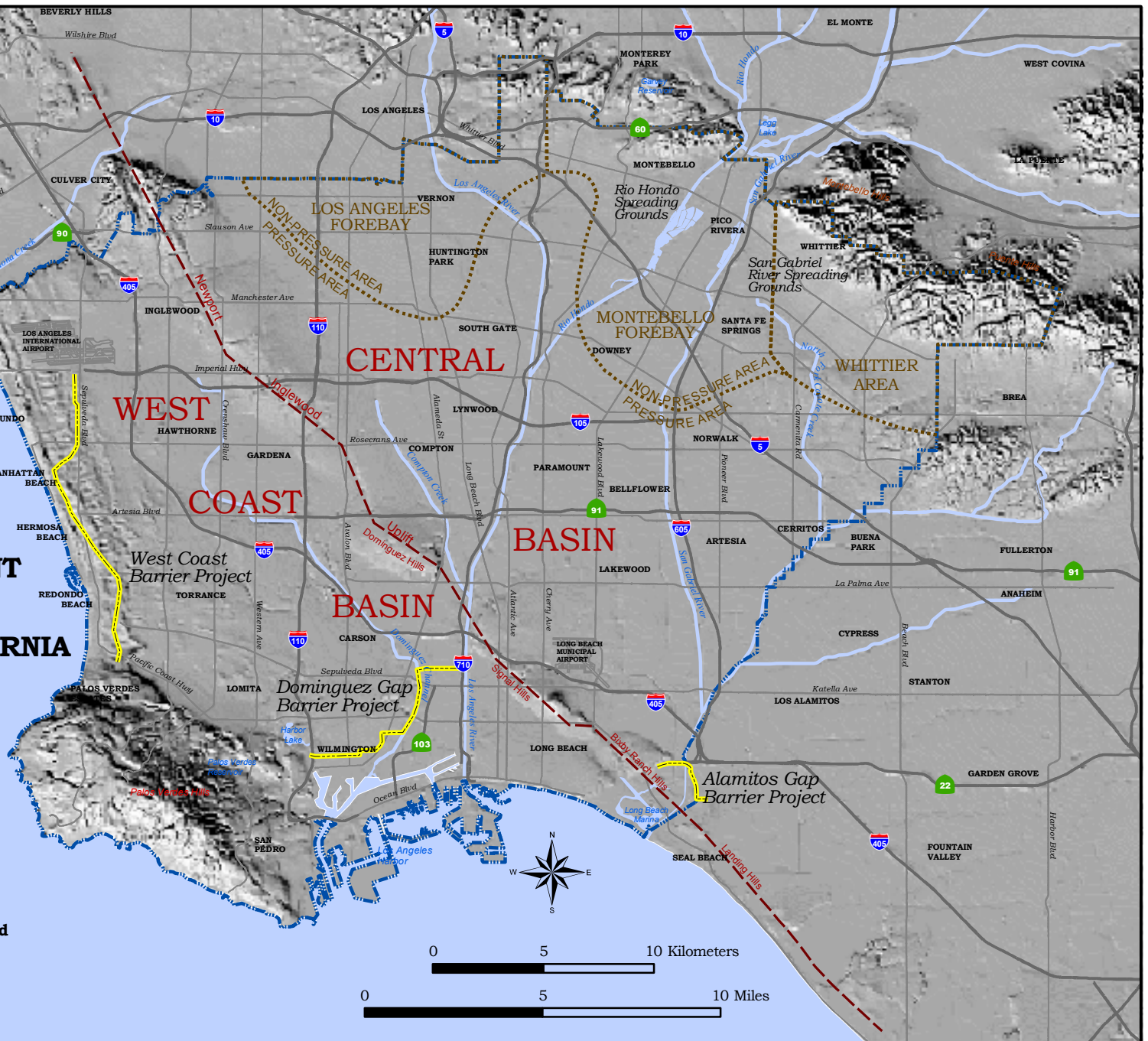
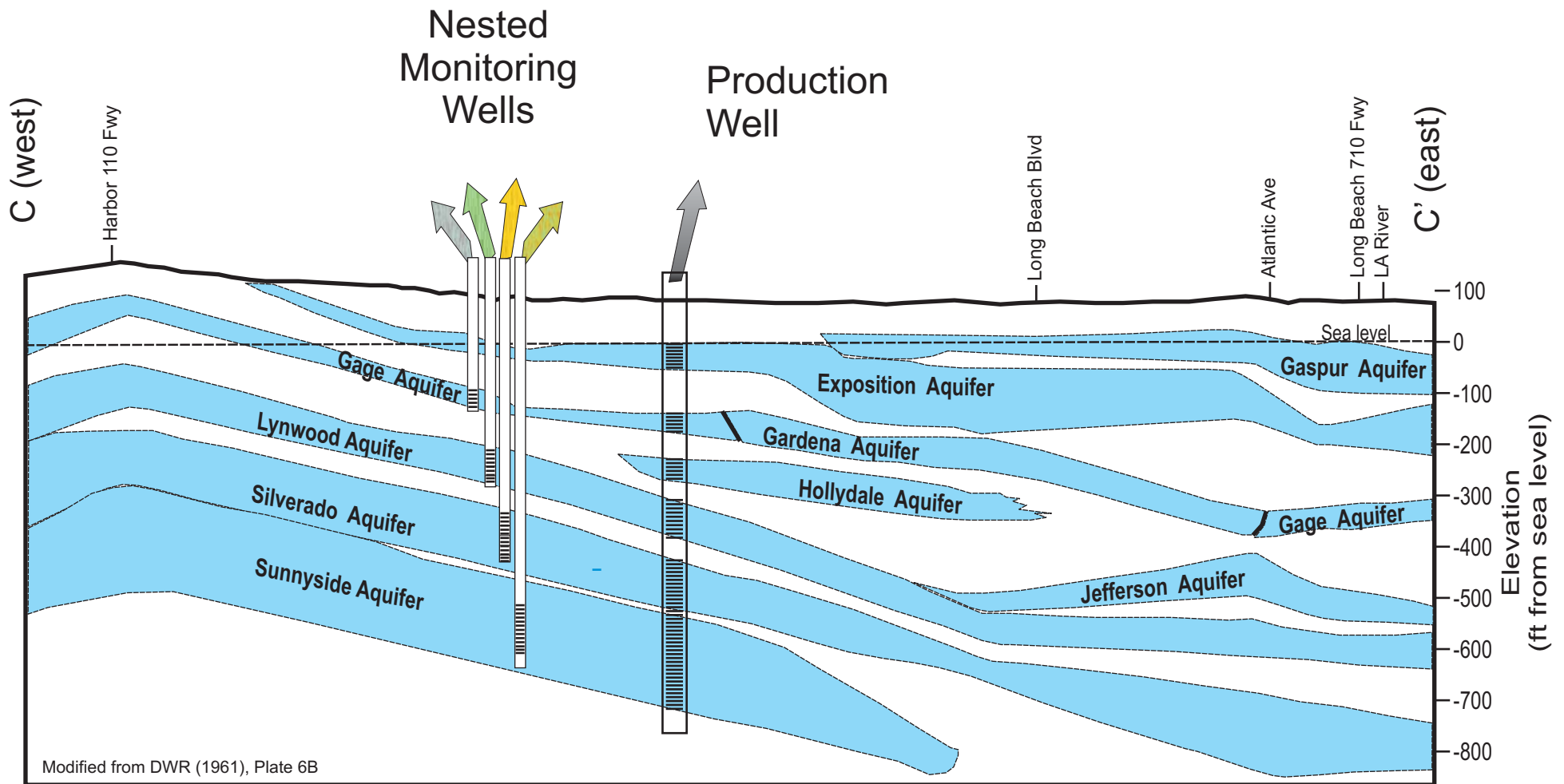
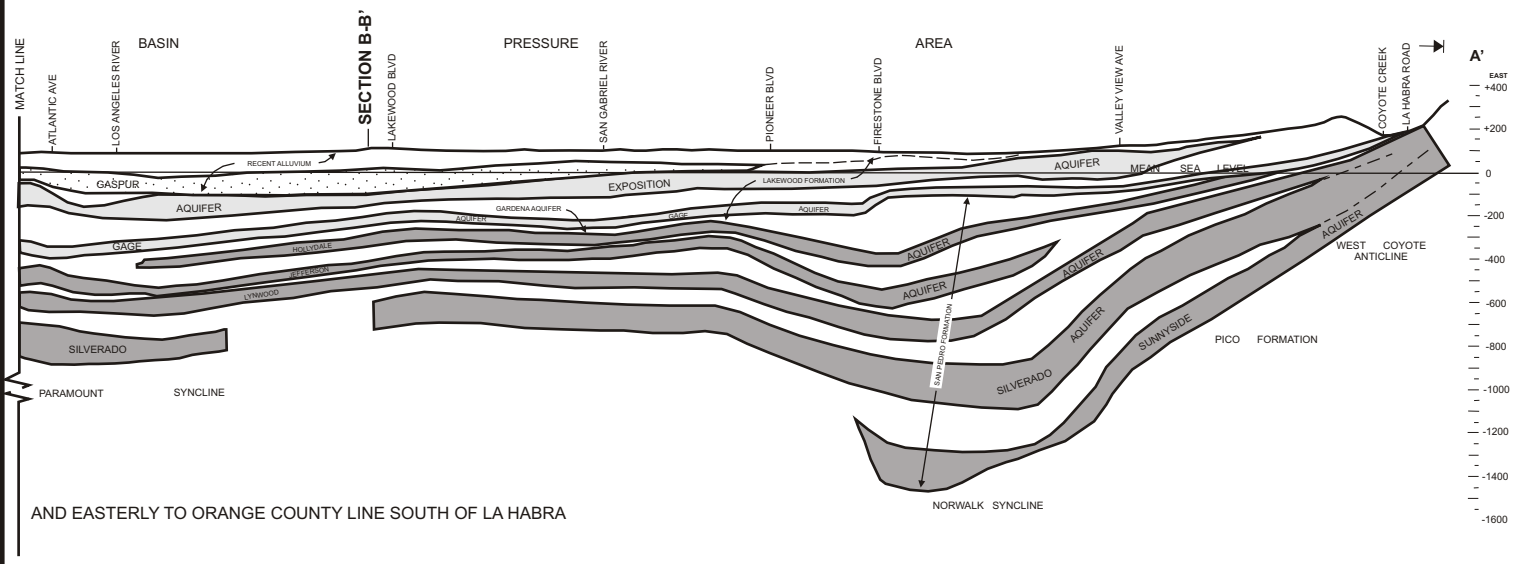
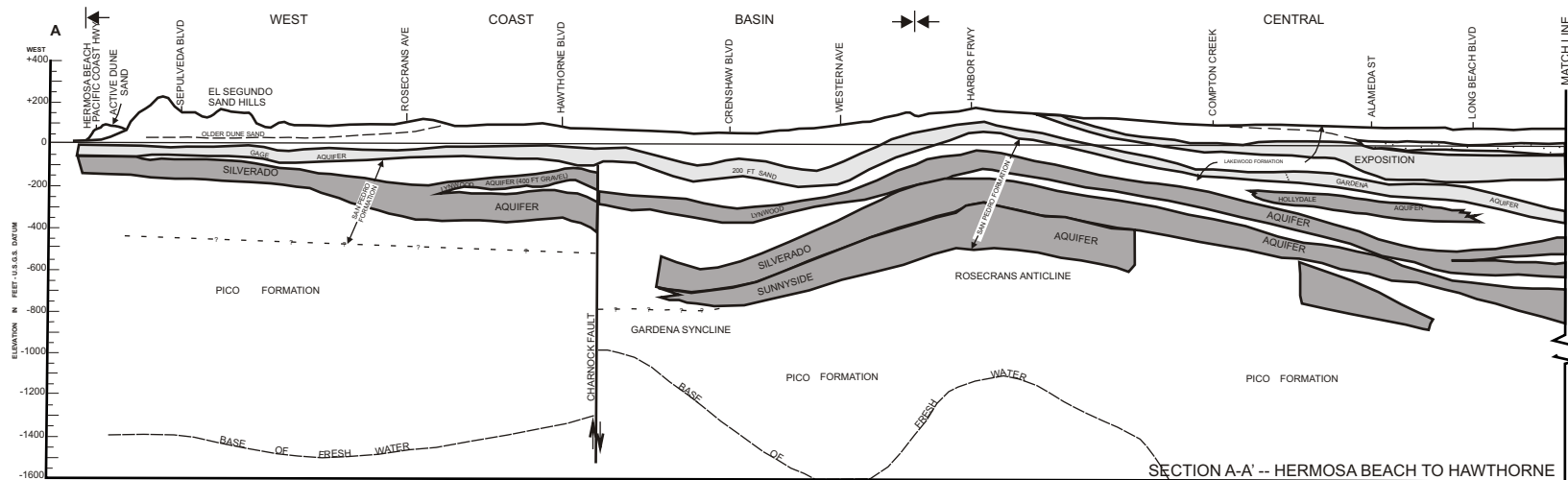


FIGURE 1.2
NESTED WELLS vs. PRODUCTION WELLS
FOR AQUIFER-SPECIFIC DATA



Production wells are typically perforated across multiple aquifers producing an average water quality. Nested monitoring wells are screened in a portion of a specific aquifer, providing water quality and water level information for the specific zone.



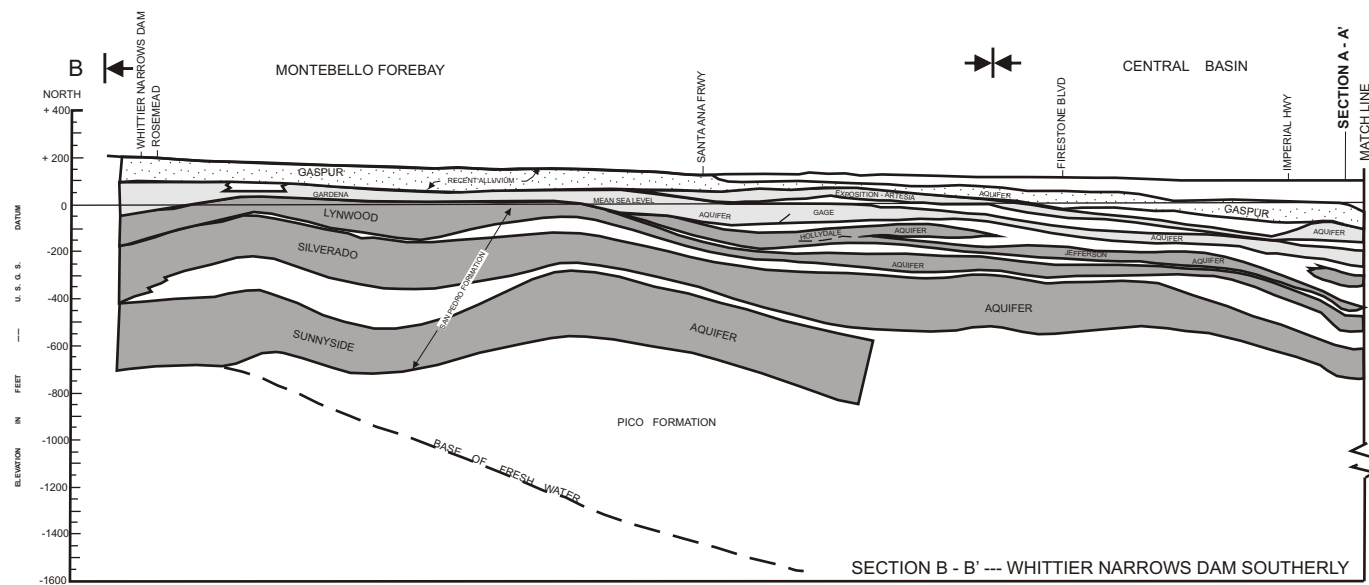
LEGEND

- AQUICLIDES AND DEEPER UNDIFFERENTIATED FORMATIONS
- AQUIFERS IN RECENT ALLUVIUM (INCLUDES THE GASPUR AND BALLONA AQUIFERS)
- AQUIFERS IN LAKEWOOD FORMATION (INCLUDES THE ARTESIA, EXPOSITION, GAGE, AND GARDENA AQUIFERS)
- AQUIFERS IN THE SAN PEDRO FORMATION (INCLUDES THE HOLLYDALE, JEFFERSON, LYNNWOOD, SILVERADO AND SUNNYSIDE AQUIFERS)

IDEALIZED GEOLOGIC CROSS SECTION AA'

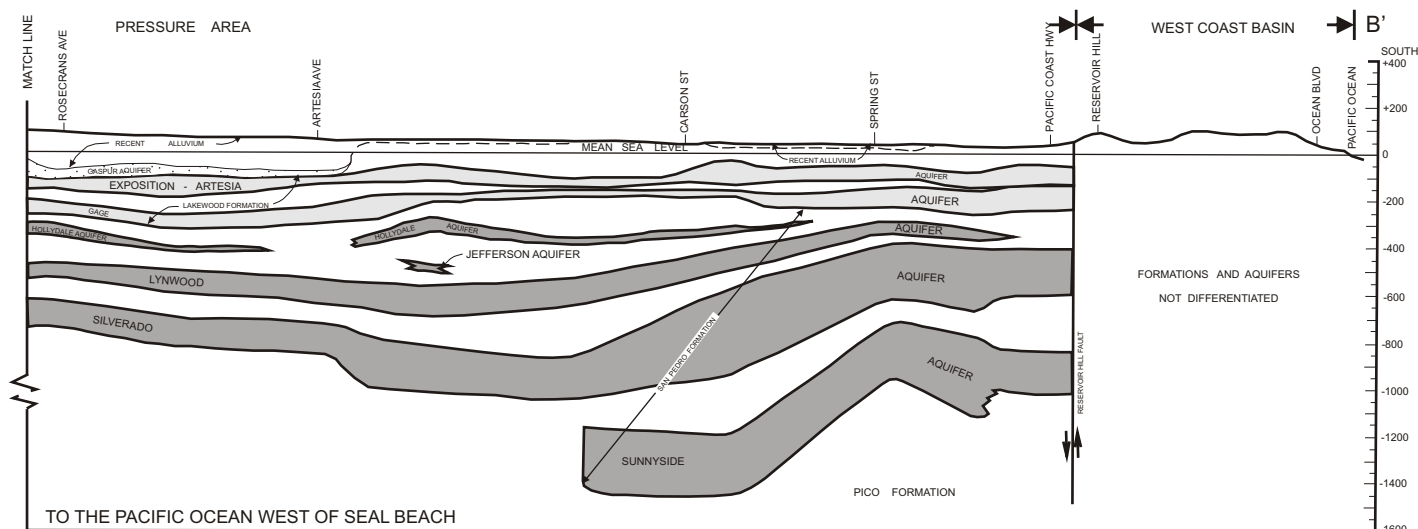
Adapted from
CDWR Bull. 104 App. B

FIGURE 1.4



LEGEND

- AQUICLUDES AND DEEPER UNDIFFERENTIATED FORMATIONS
- AQUIFERS IN RECENT ALLUVIUM (INCLUDES THE GASPUR AND BALLONA AQUIFERS)
- AQUIFERS IN LAKEWOOD FORMATION (INCLUDES THE ARTESIA, EXPOSITION, GAGE, AND GARDENA AQUIFERS)
- AQUIFERS IN THE SAN PEDRO FORMATION (INCLUDES THE HOLLYDALE, JEFFERSON, LYNWOOD, SILVERADO AND SUNNYSIDE AQUIFERS)



IDEALIZED GEOLOGIC CROSS SECTION BB'

Adapted from
CDWR Bull. 104 App. B

FIGURE 1.5

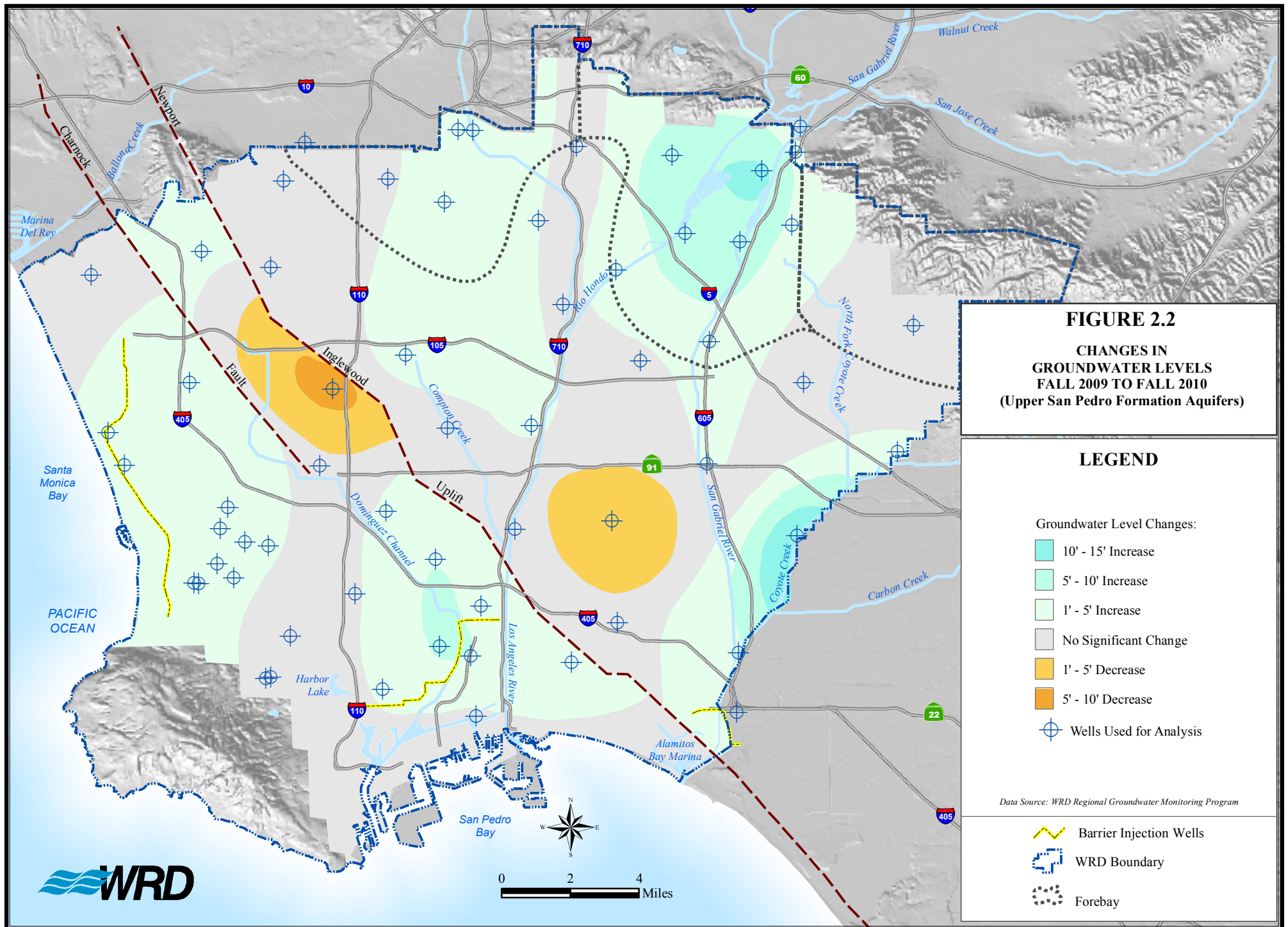
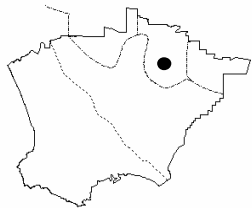
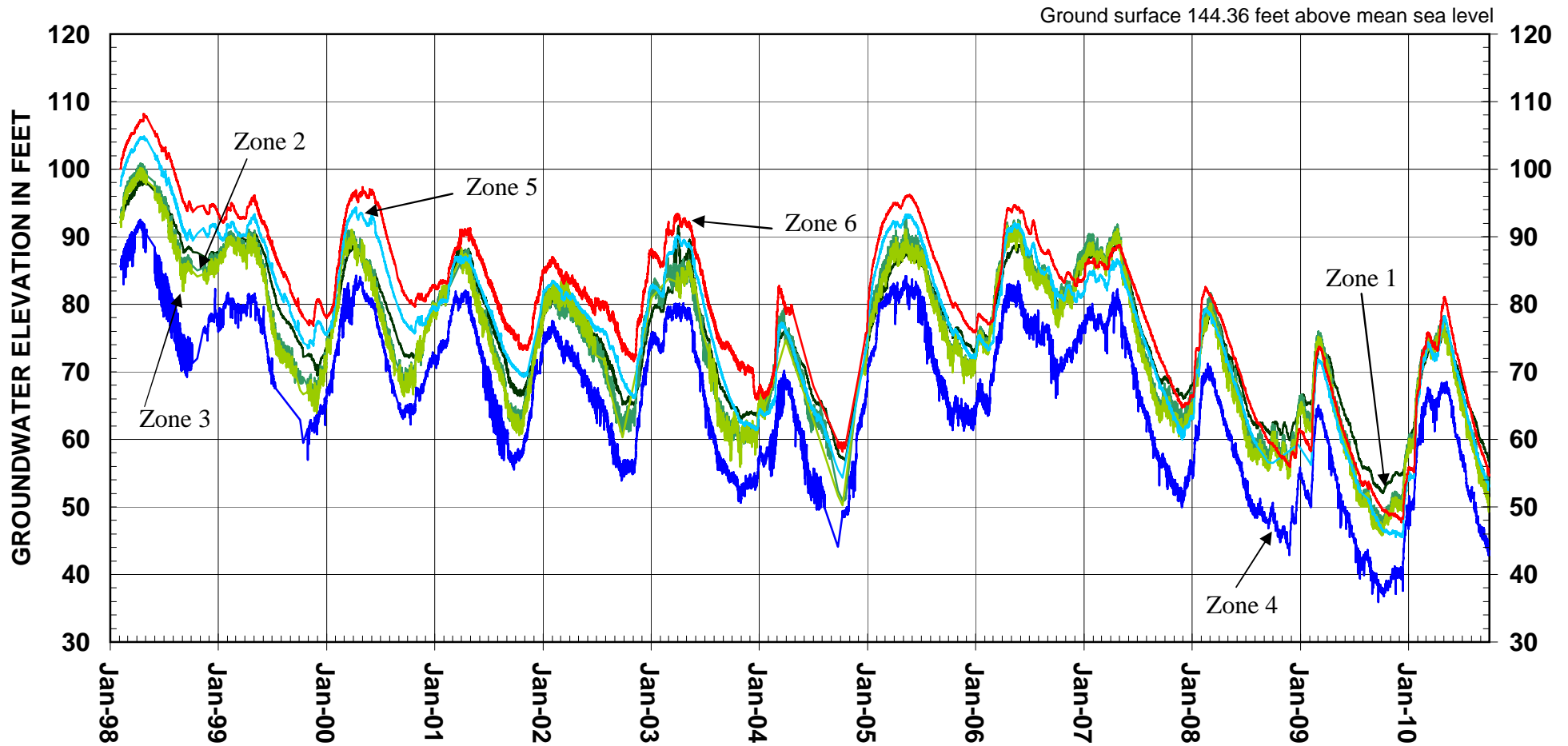
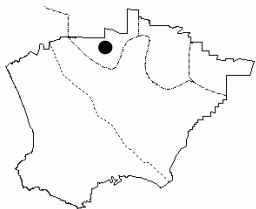
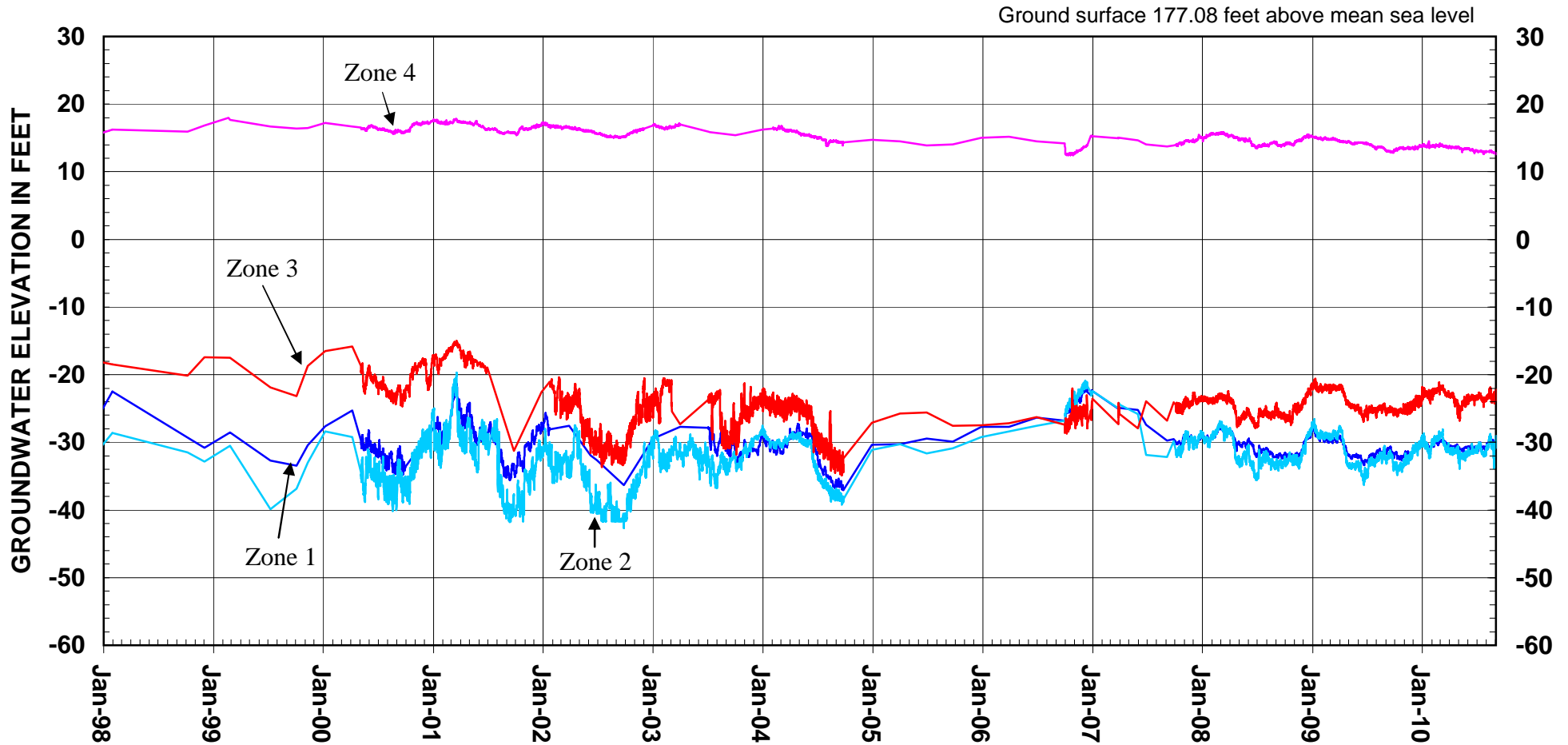


FIGURE 2.3
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL RIO HONDO #1



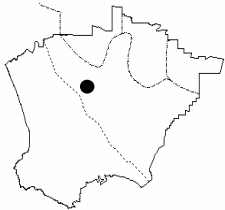
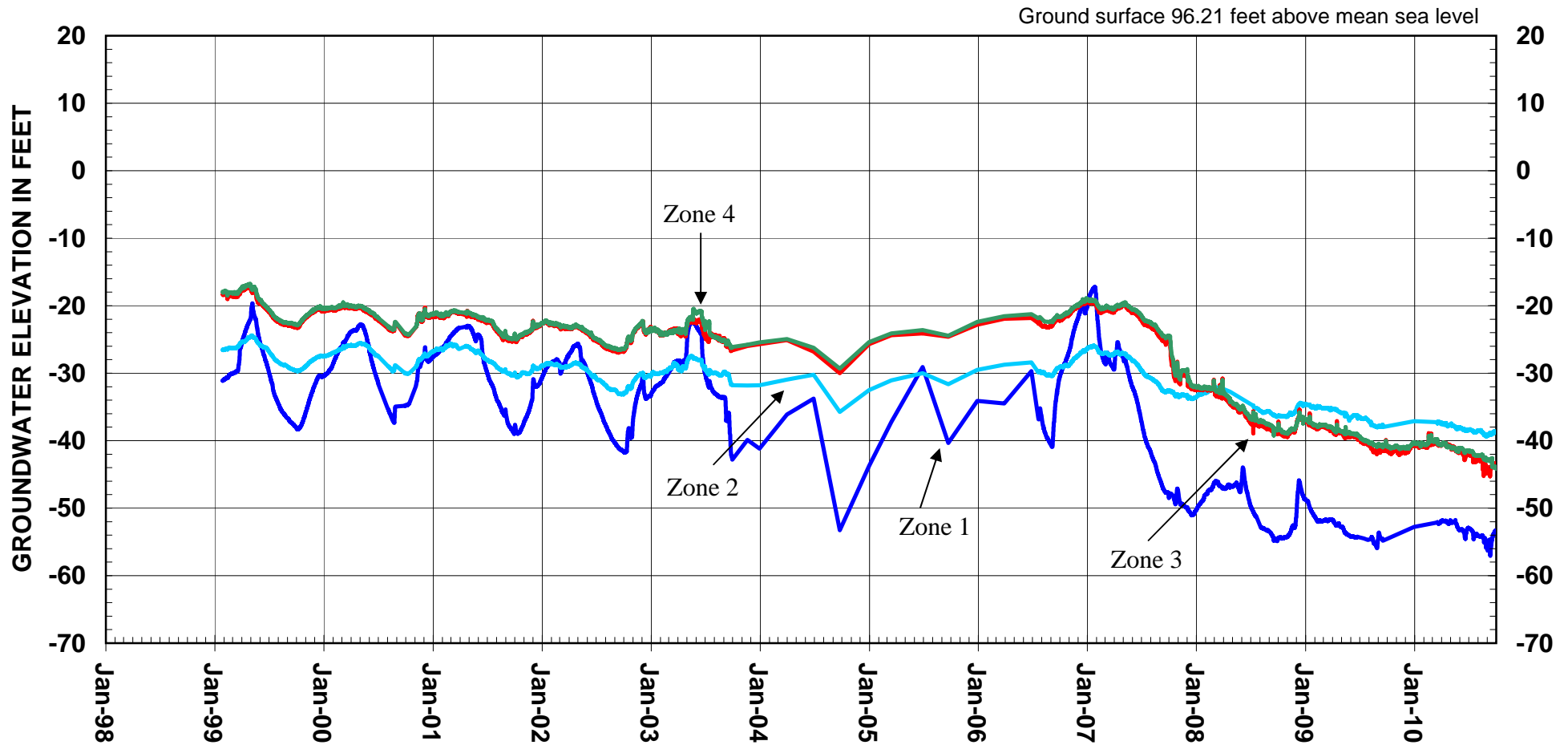
— Zone 1 (1110' - 1130', Sunnyside)	— Zone 2 (910' - 930', Sunnyside)
— Zone 3 (710' - 730', Sunnyside)	— Zone 4 (430' - 450', Silverado)
— Zone 5 (280' - 300', Lynwood)	— Zone 6 (140' - 160', Gardena)

FIGURE 2.4
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL HUNTINGTON PARK #1



- | | |
|---------------------------------------|------------------------------------|
| — Zone 1 (890' - 910', Silverado) | — Zone 2 (690' - 710', Jefferson) |
| — Zone 3 (420' - 440', Gage) | — Zone 4 (275' - 295', Exposition) |
| Zone 5 (114 - 134', Gaspar--well dry) | |

FIGURE 2.5
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL WILLOWBROOK #1



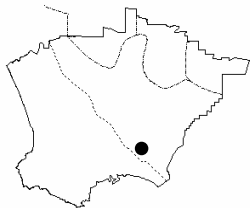
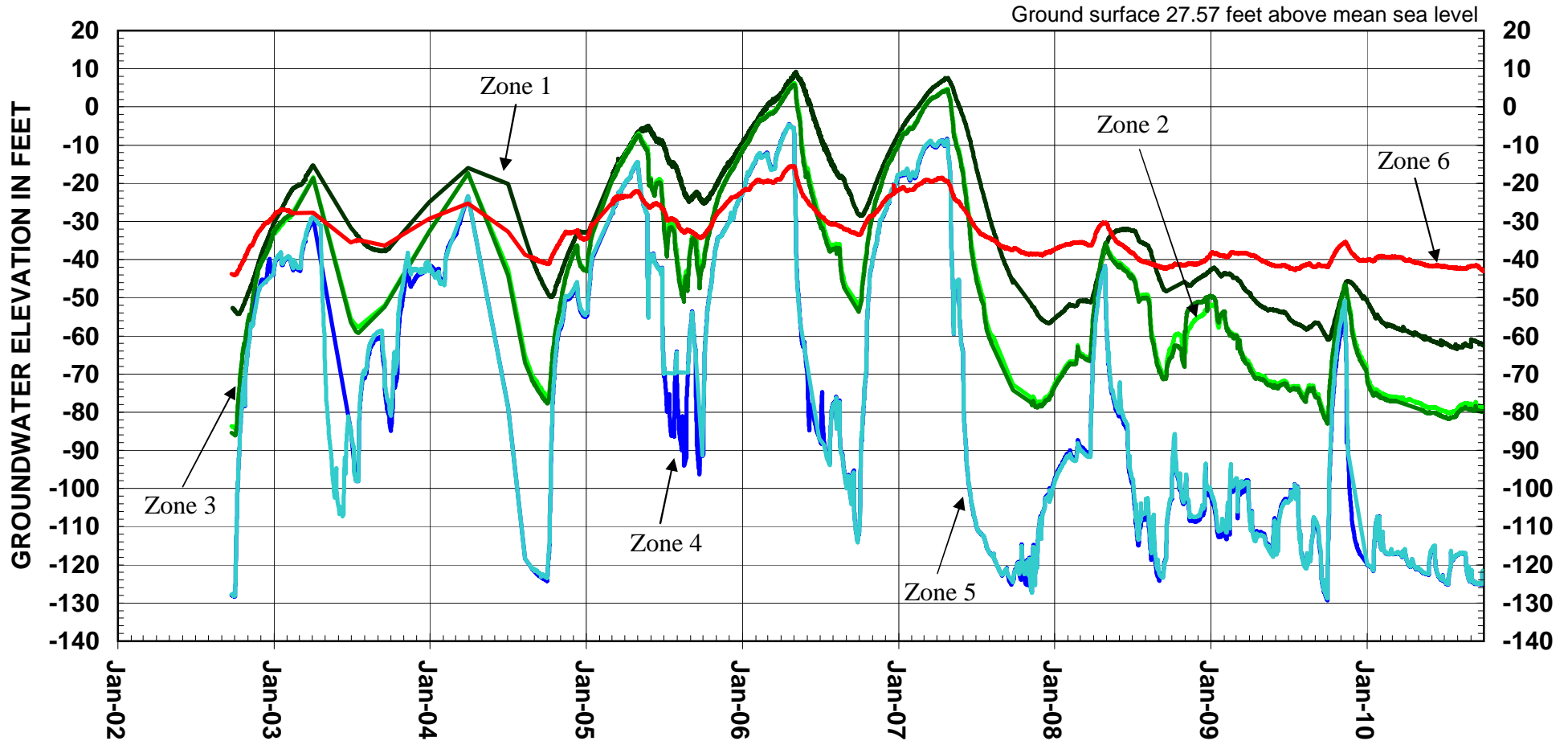
— Zone 1 (885' - 905', Sunnyside)

— Zone 2 (500' - 520', Silverado)

— Zone 3 (360' - 380', Lynwood)

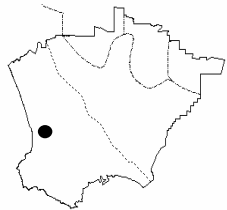
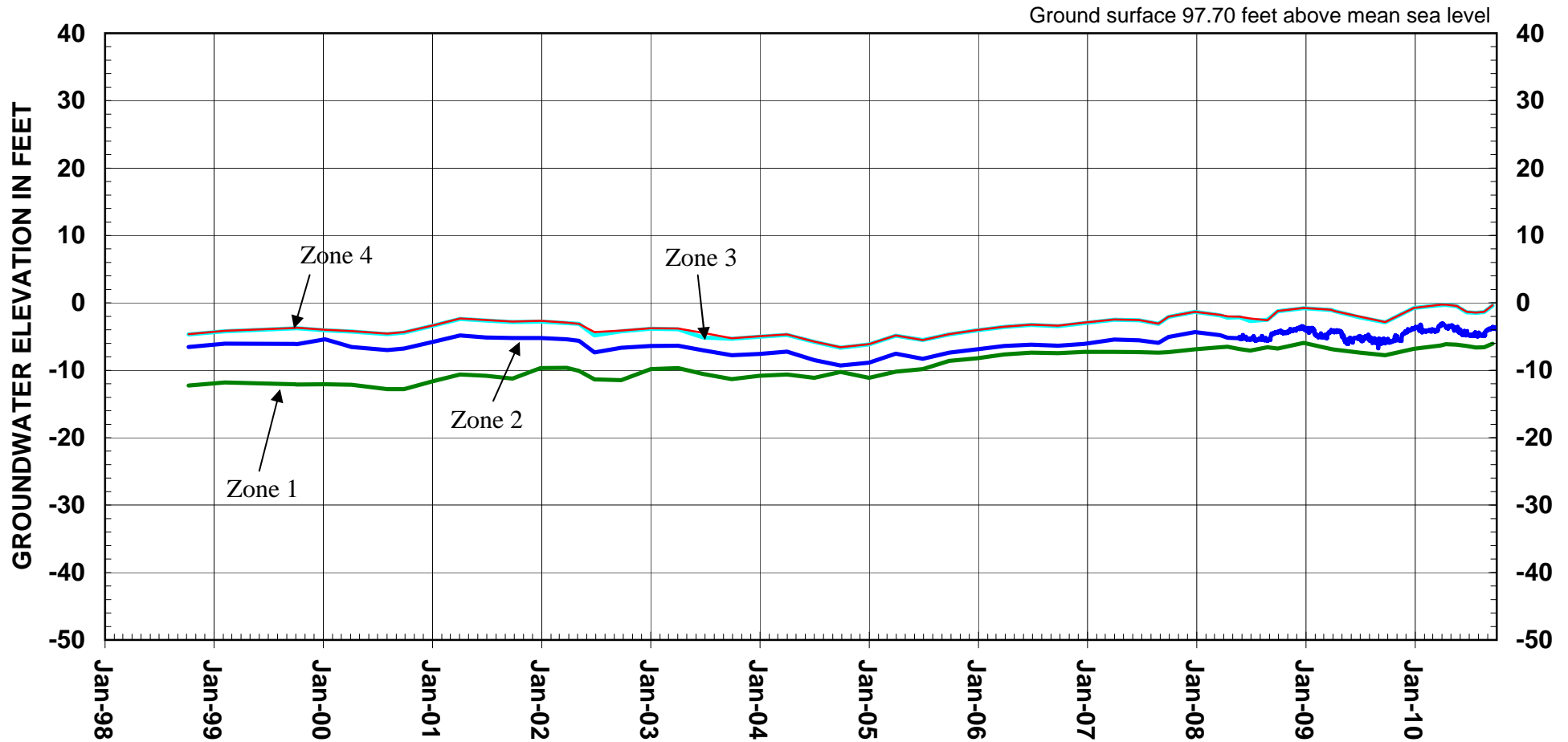
— Zone 4 (200' - 220', Gage)

FIGURE 2.6
FLUCTUATION OF WATER LEVELS IN WRD KEY NESTED
MONITORING WELL LONG BEACH #6



- | | |
|--|-----------------------------------|
| — Zone 1 (1490' - 1510', Pico Formation) | — Zone 2 (930' - 950', Sunnyside) |
| — Zone 3 (740' - 760', Sunnyside) | — Zone 4 (480' - 500', Silverado) |
| — Zone 5 (380' - 400', Lynwood) | — Zone 6 (220' - 240', Gage) |

FIGURE 2.7
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL PM-4 MARINER



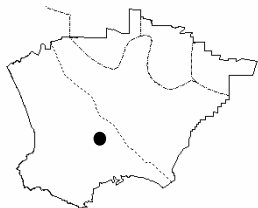
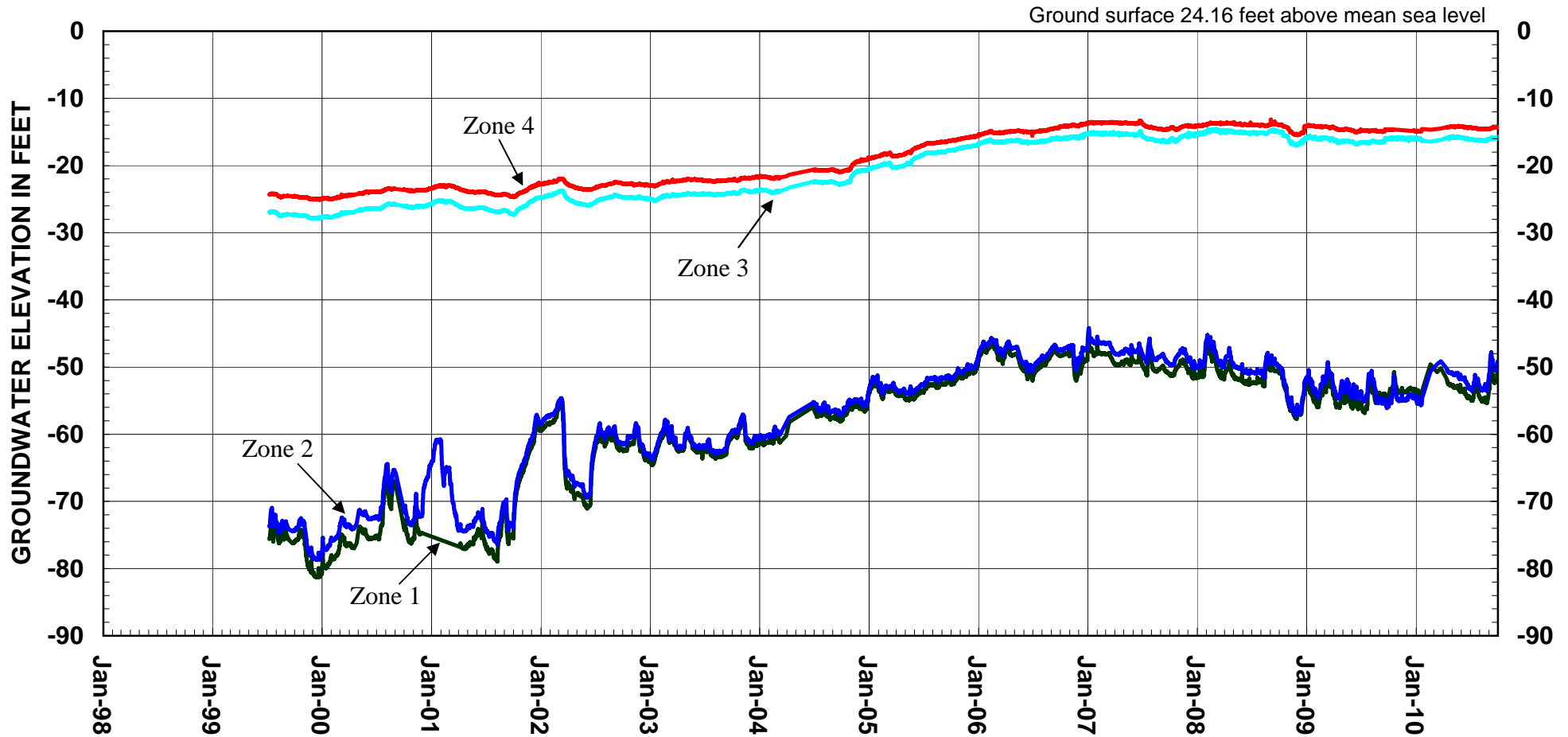
— Zone 1 (670' - 710', Sunnyside)

— Zone 2 (500' - 540', Silverado)

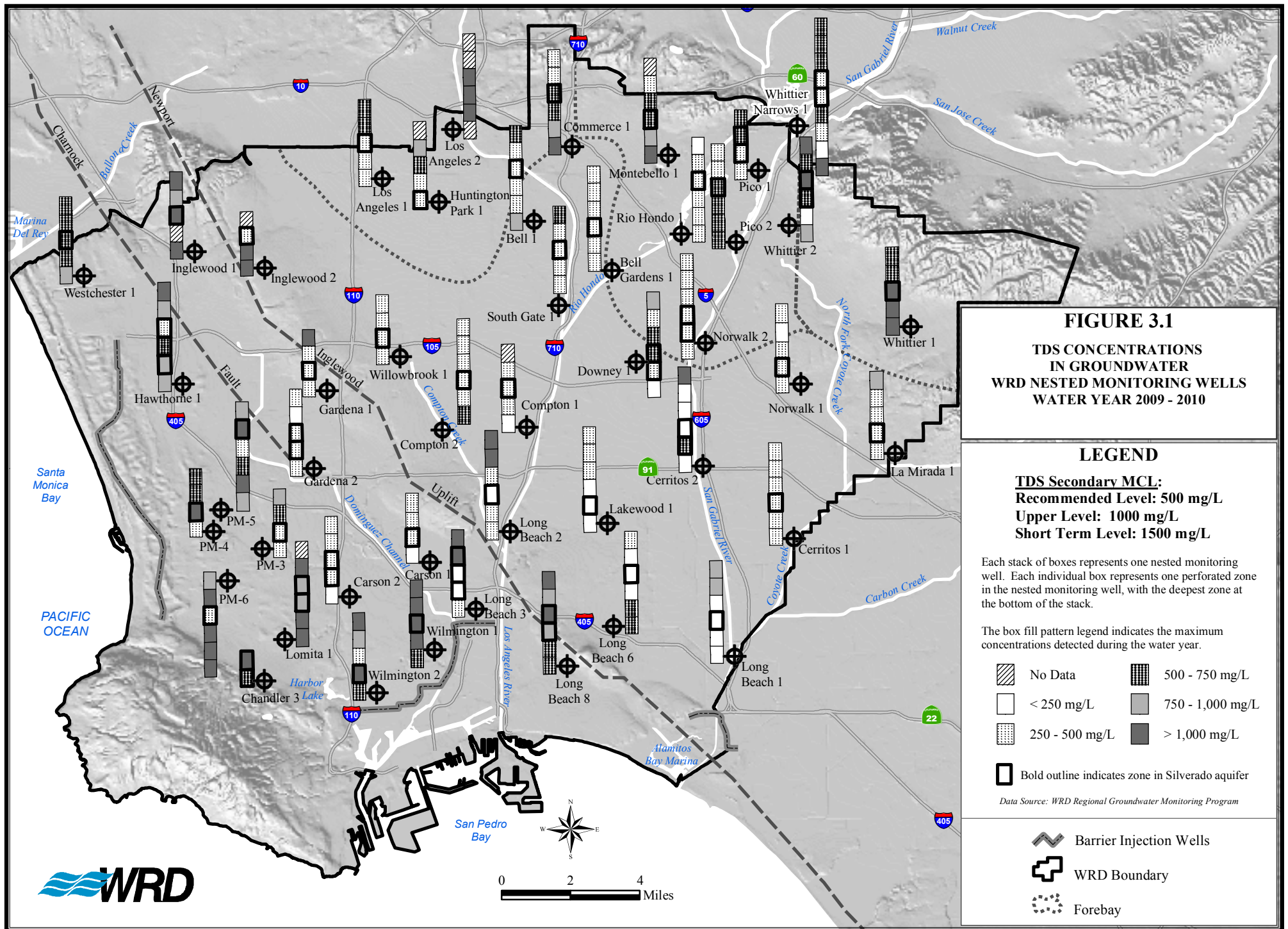
— Zone 3 (340' - 380', Lynwood)

— Zone 4 (200' - 240', Lynwood)

FIGURE 2.8
WATER LEVELS IN WRD KEY NESTED
MONITORING WELL CARSON #1



- | | |
|---|---|
| — Zone 1 (990' - 1110', Sunnyside) | — Zone 2 (740' - 760', Silverado) |
| — Zone 3 (460' - 480', Lynwood) | — Zone 4 (250' - 270', Gage) |



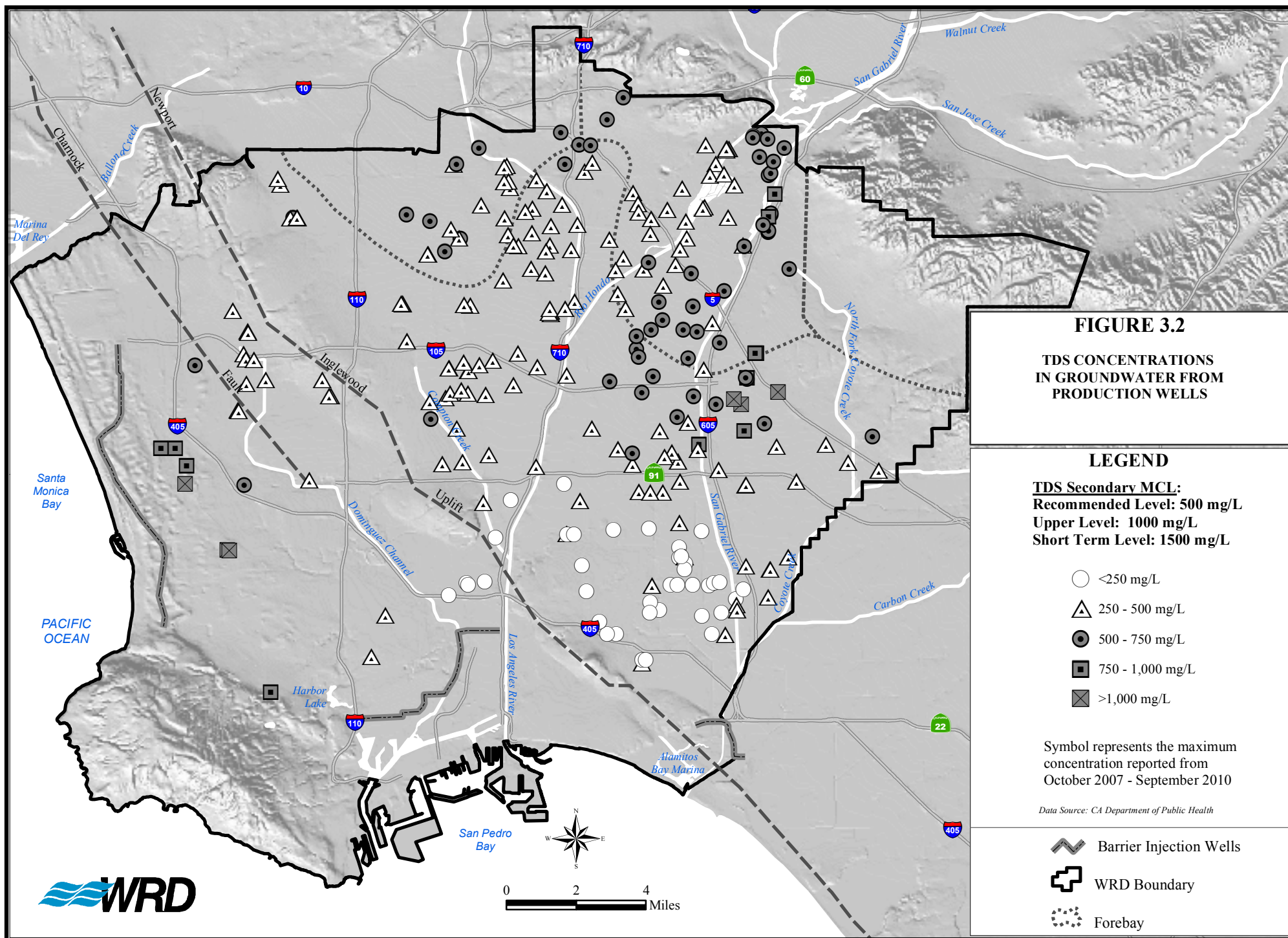


FIGURE 3.3
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL RIO HONDO #1

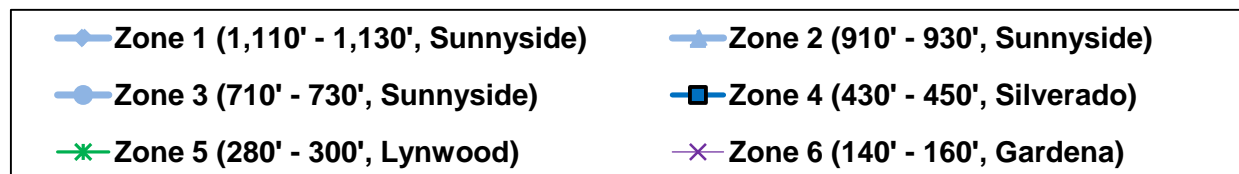
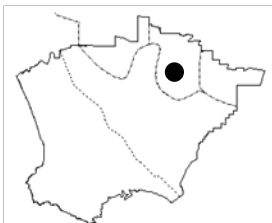
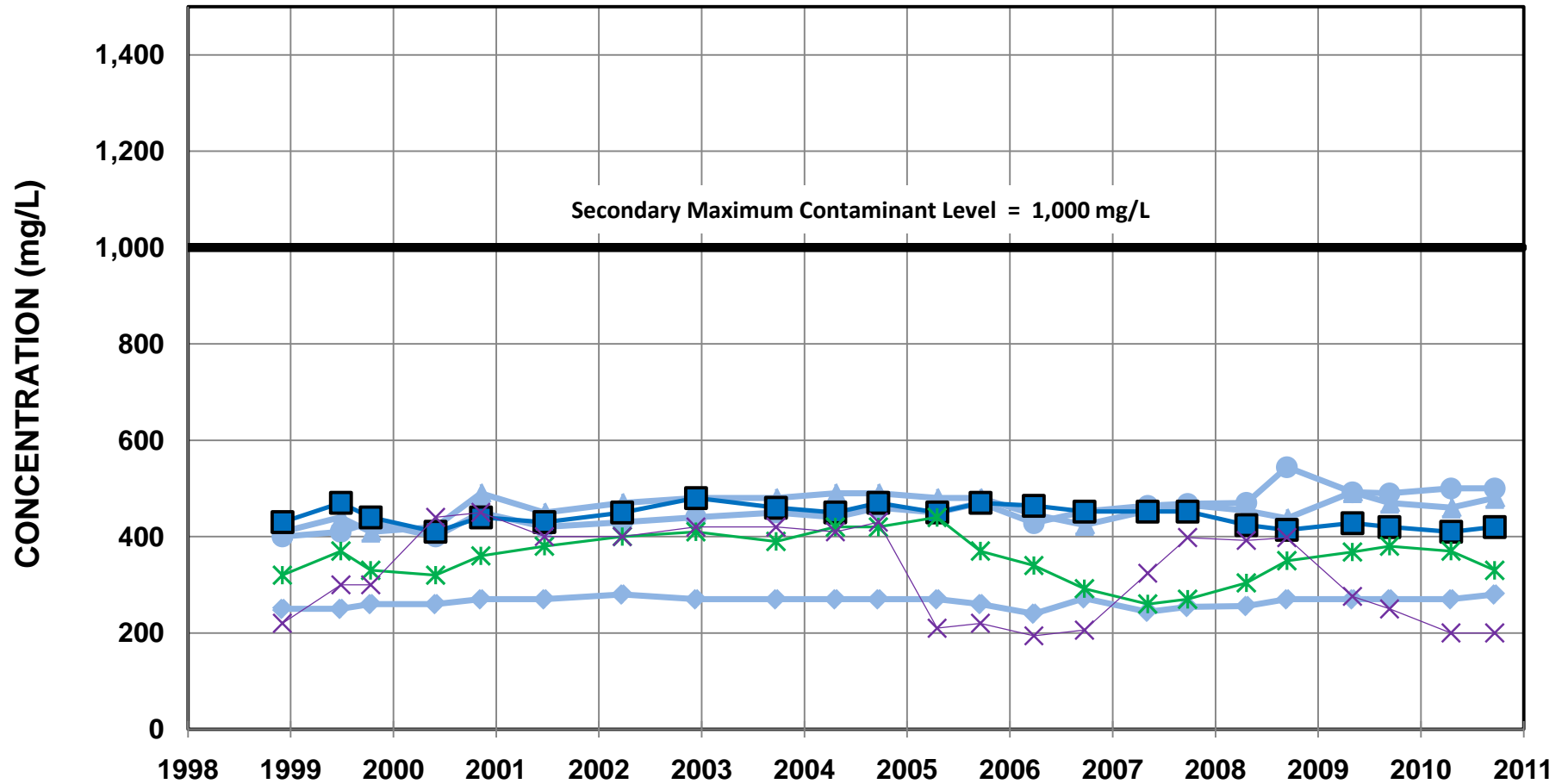


FIGURE 3.4
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL HUNTINGTON PARK #1

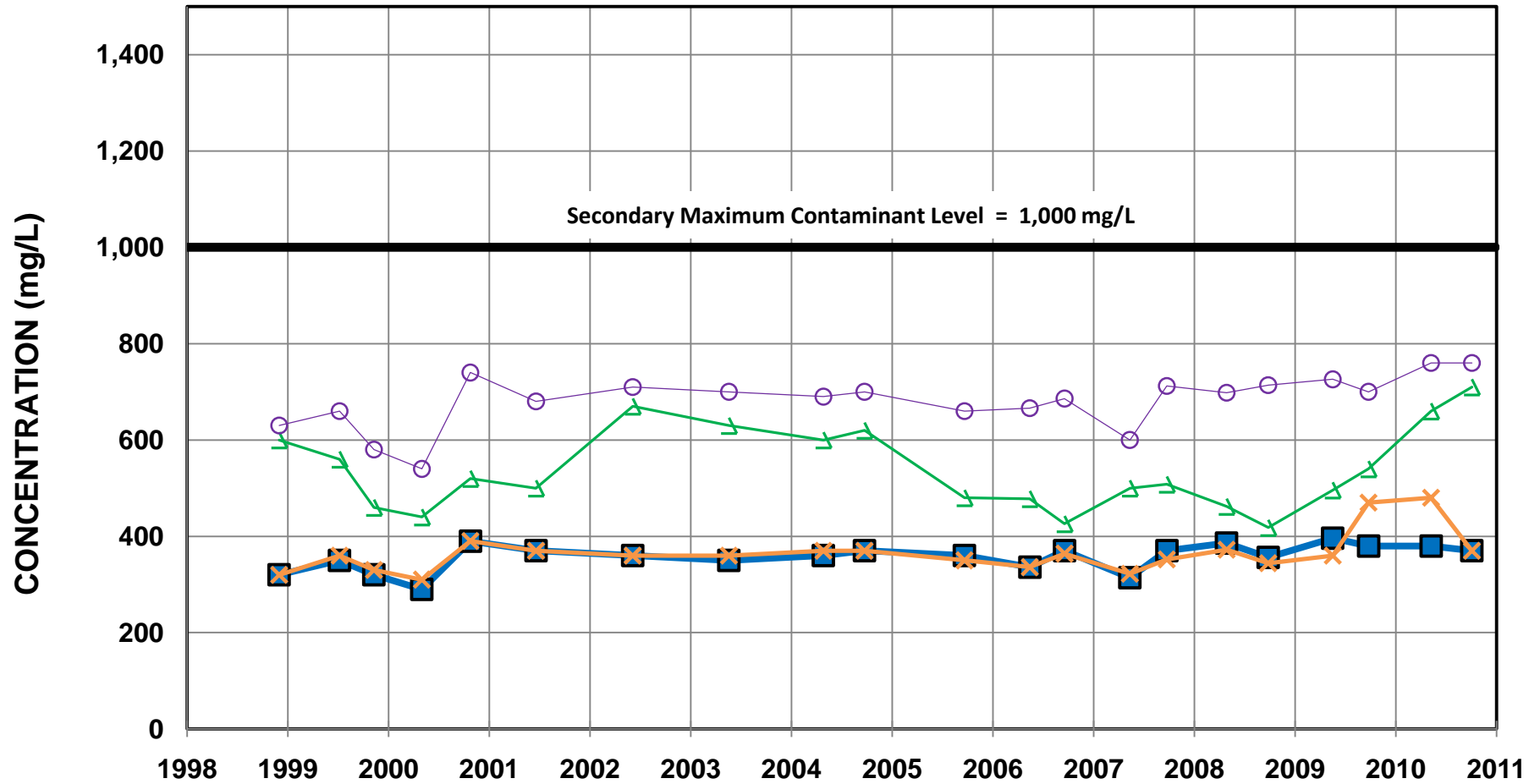


FIGURE 3.5
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL WILLOWBROOK #1

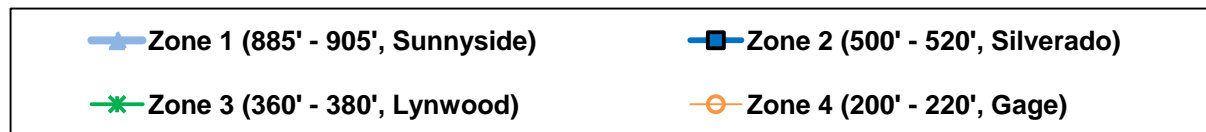
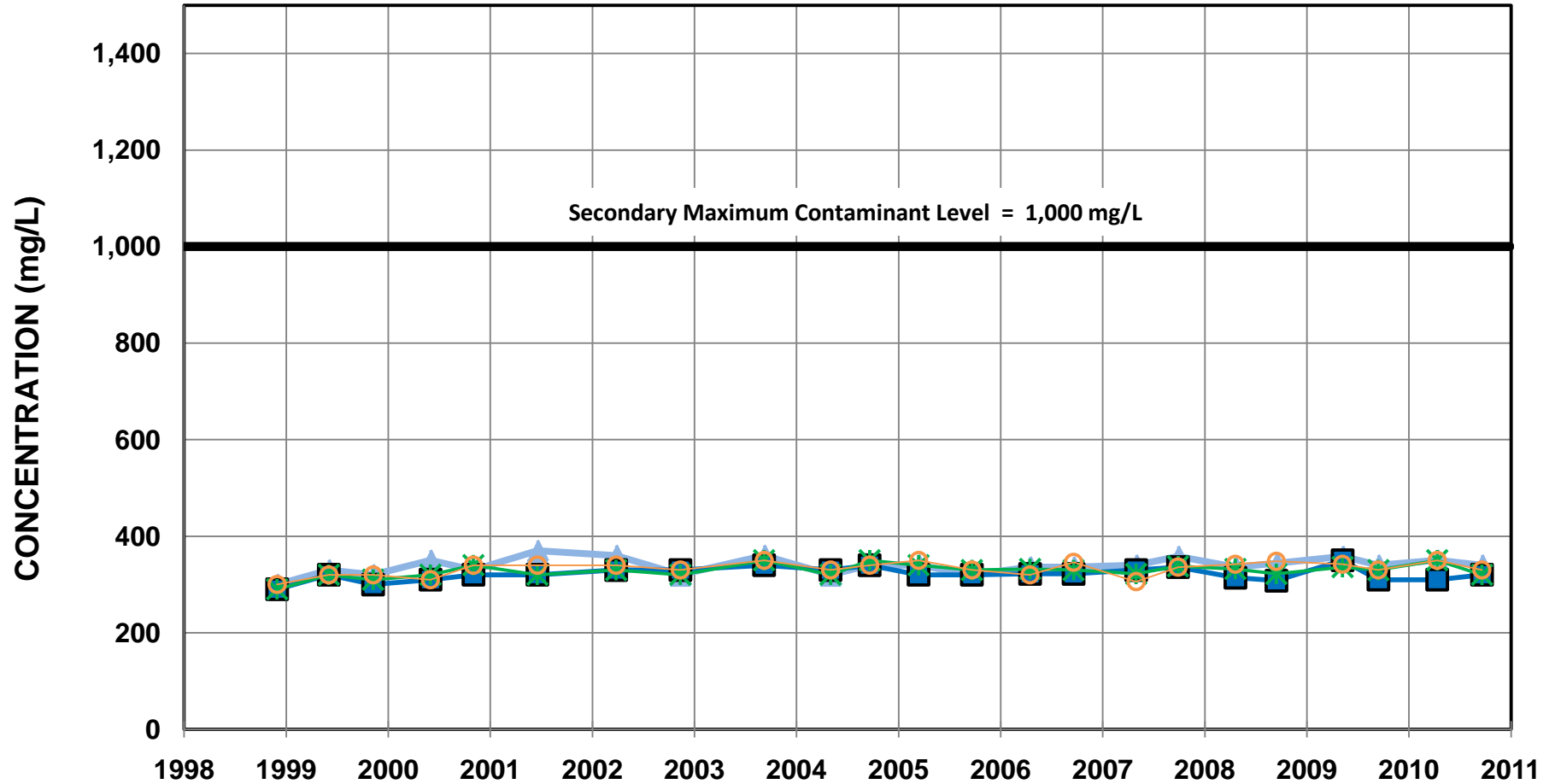
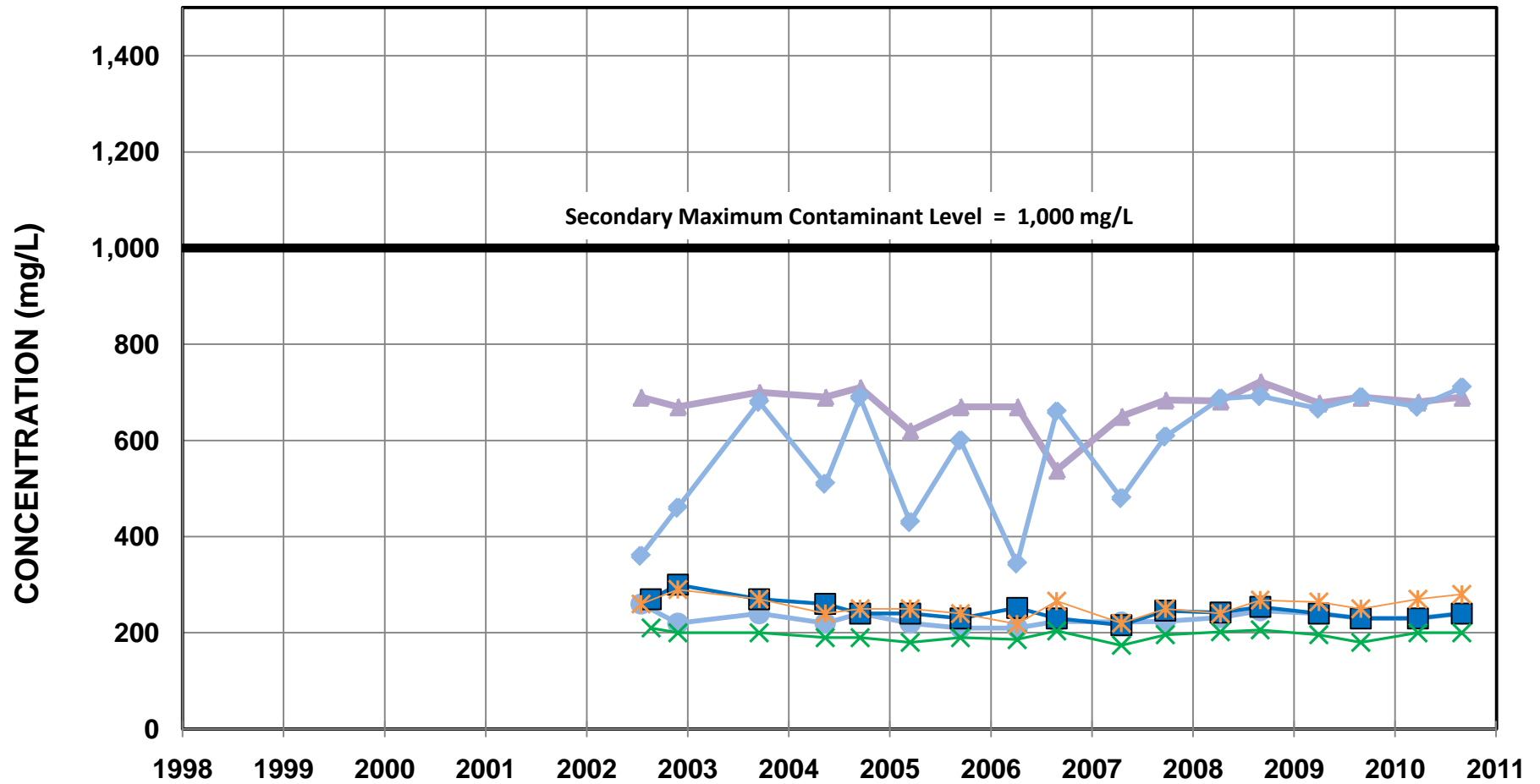


FIGURE 3.6
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL LONG BEACH #6



- | | |
|--|-------------------------------------|
| —▲— Zone 1 (1,490' - 1,510', Pico Formation) | —◆— Zone 2 (930' - 950', Sunnyside) |
| —●— Zone 3 (740' - 760', Sunnyside) | —■— Zone 4 (480' - 500', Silverado) |
| —×— Zone 5 (380' - 400', Lynwood) | —*— Zone 6 (220' - 240', Gage) |

FIGURE 3.7
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL PM-4 MARINER

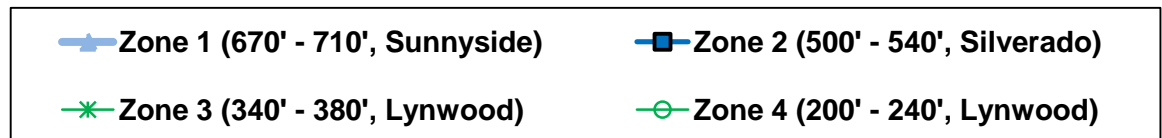
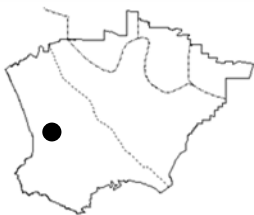
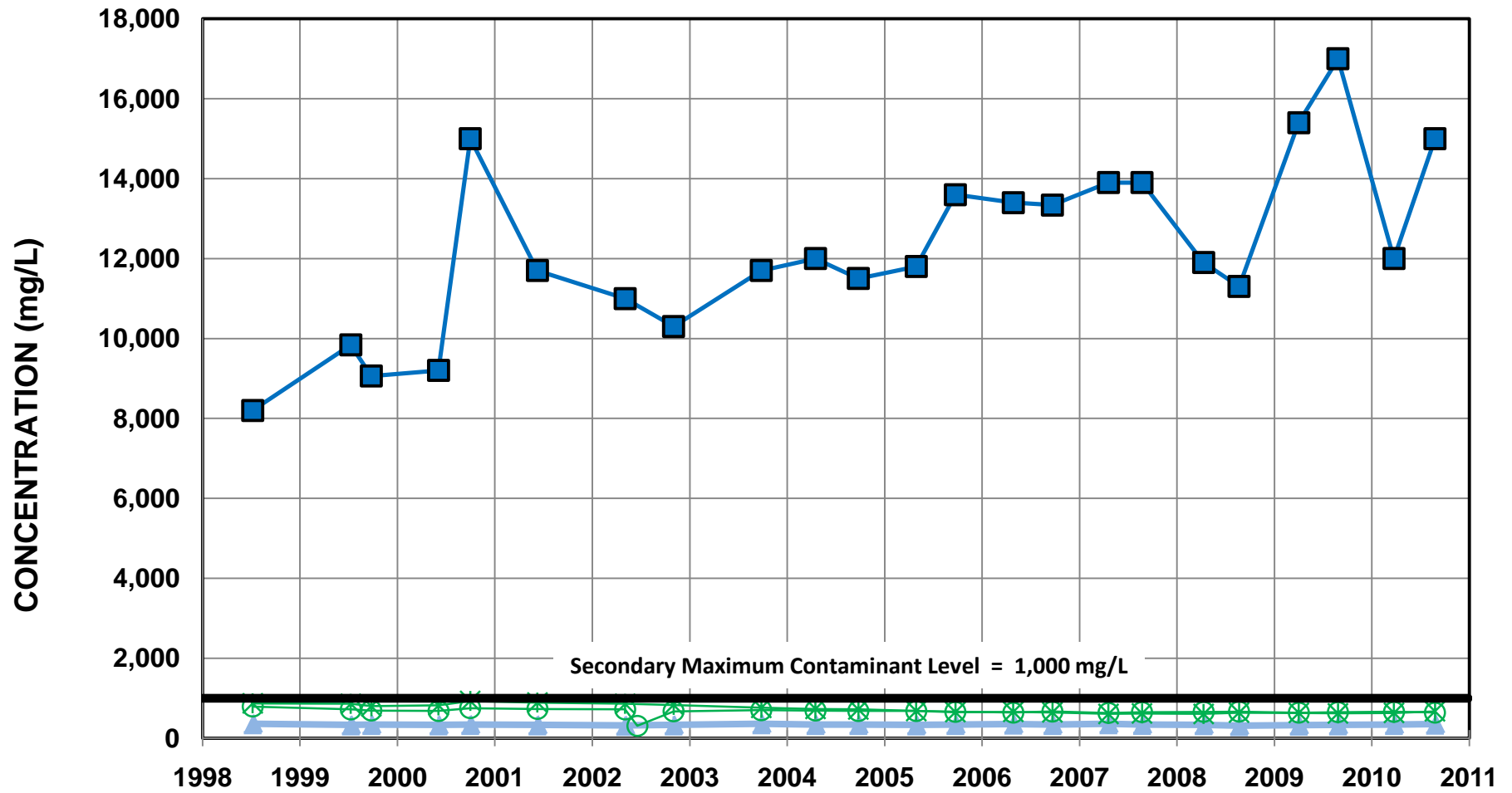
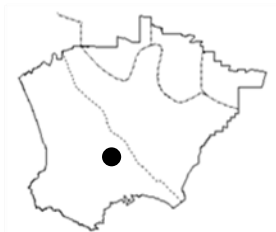
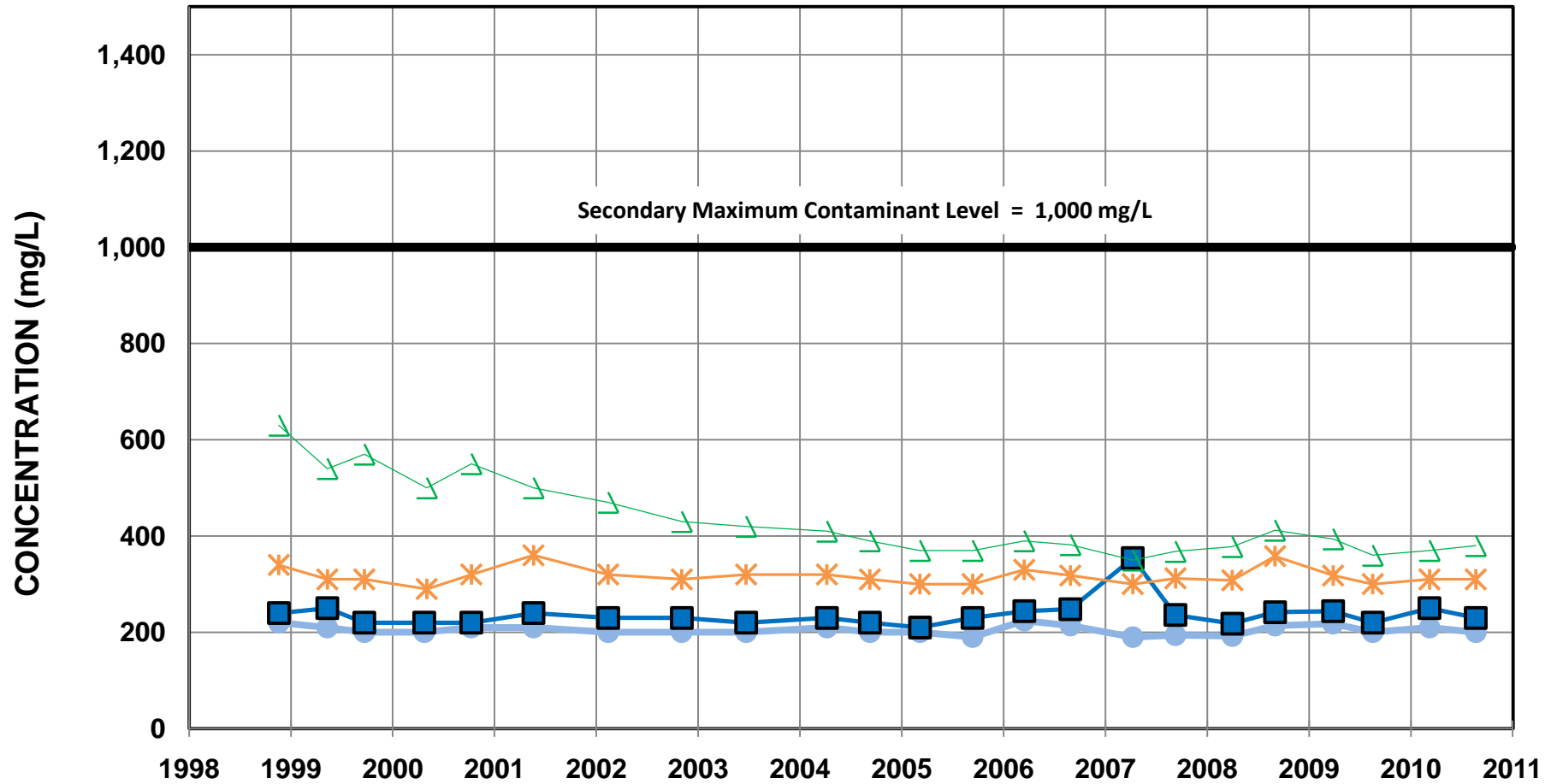
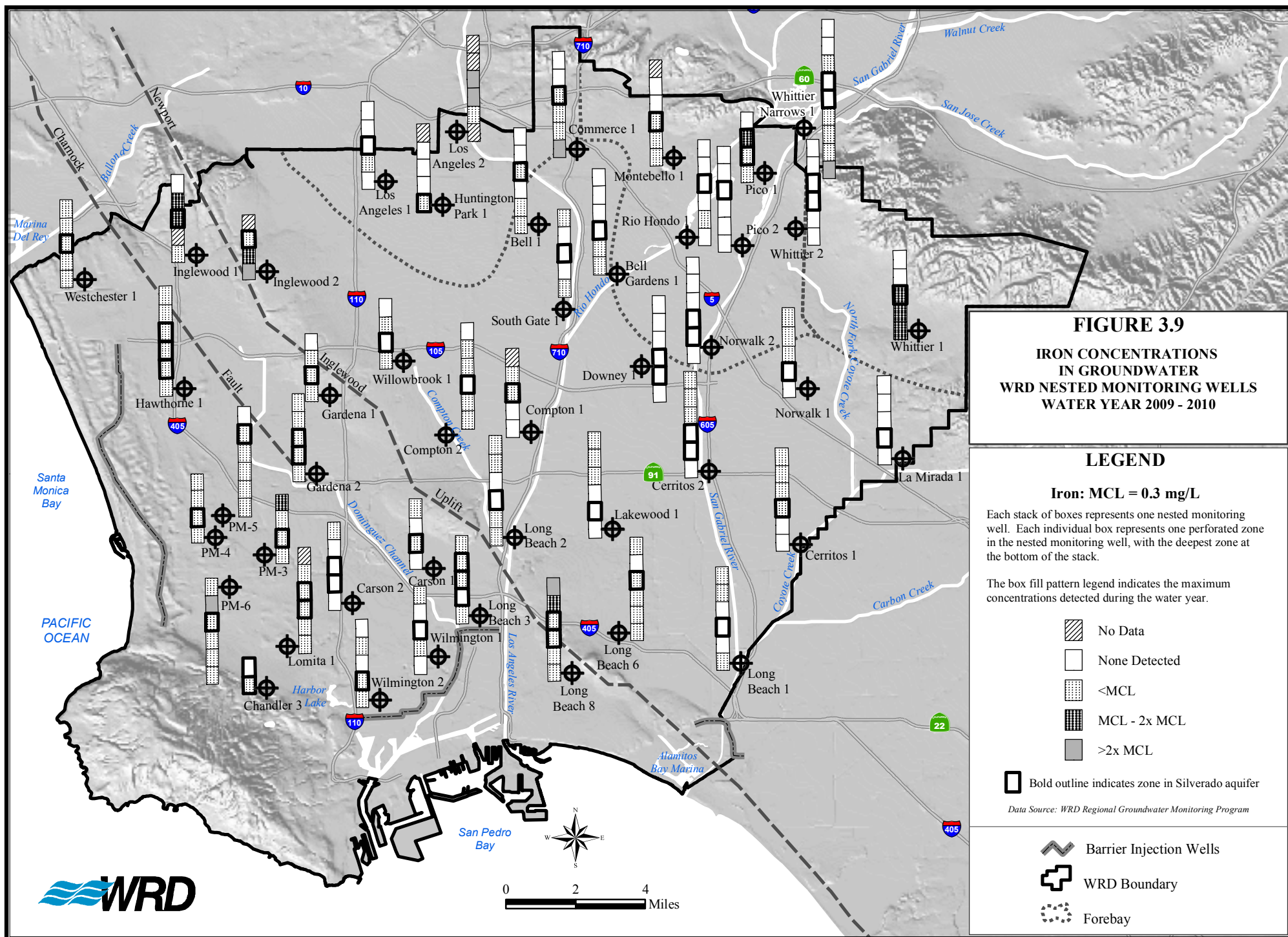
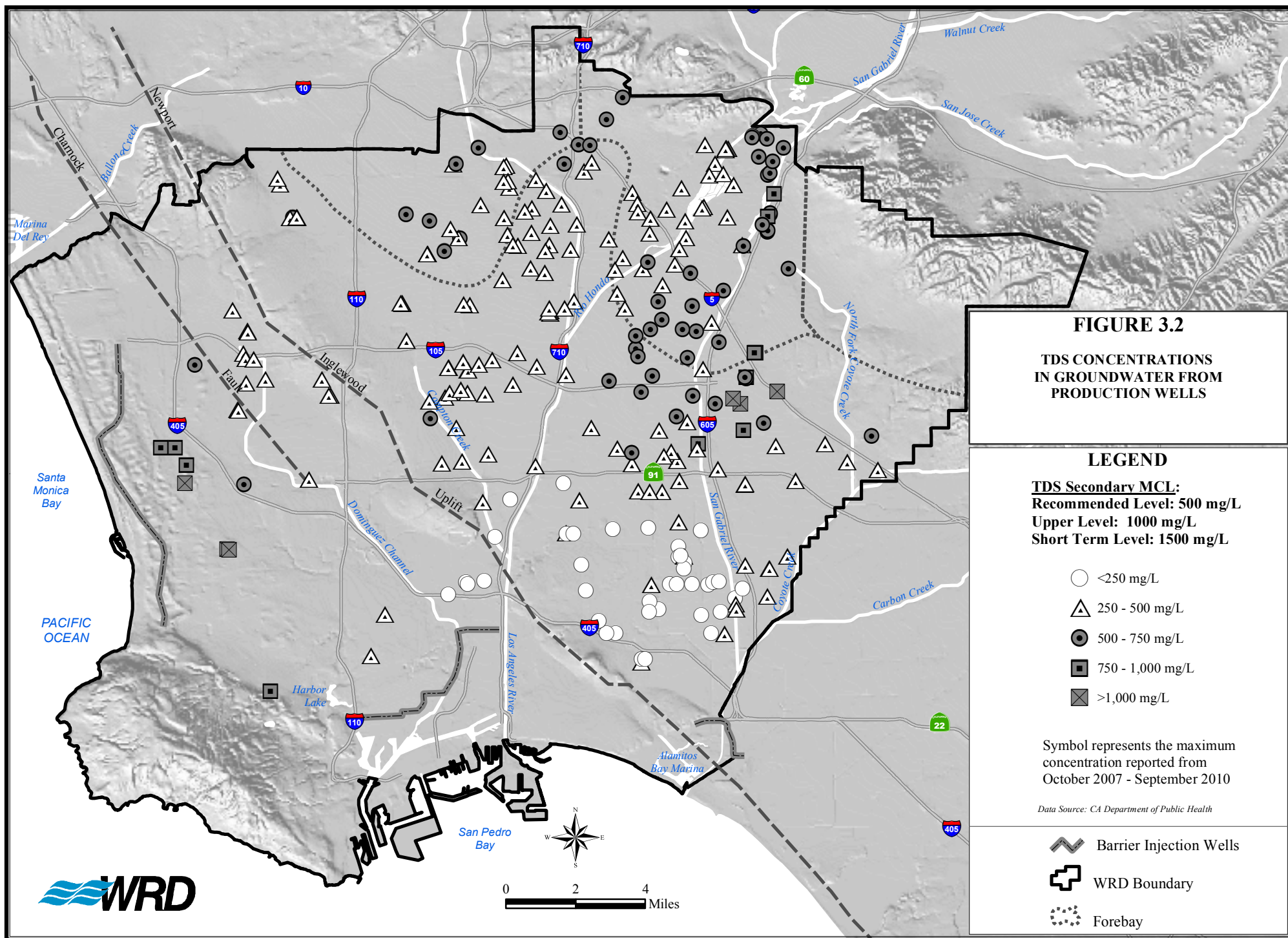
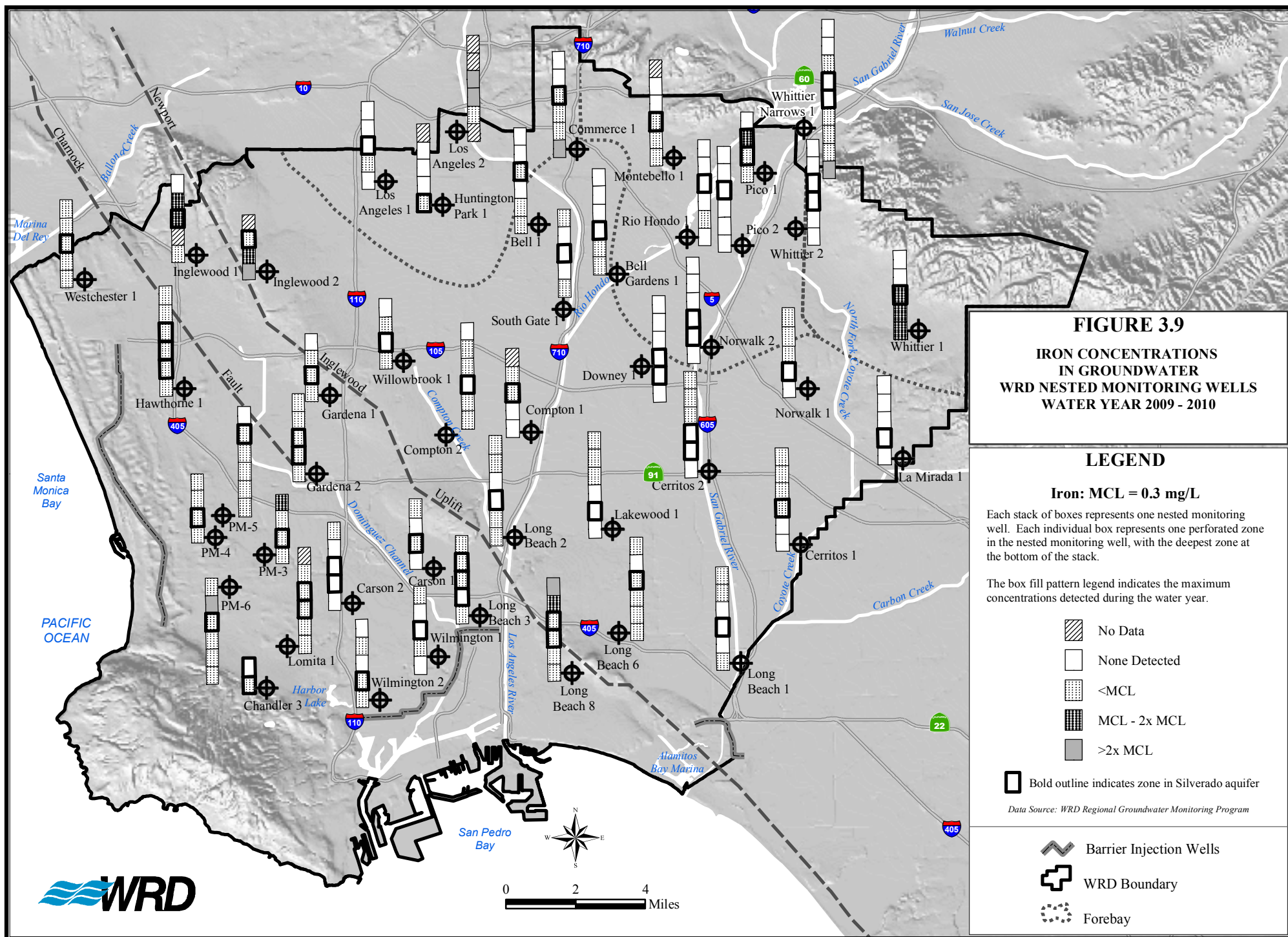


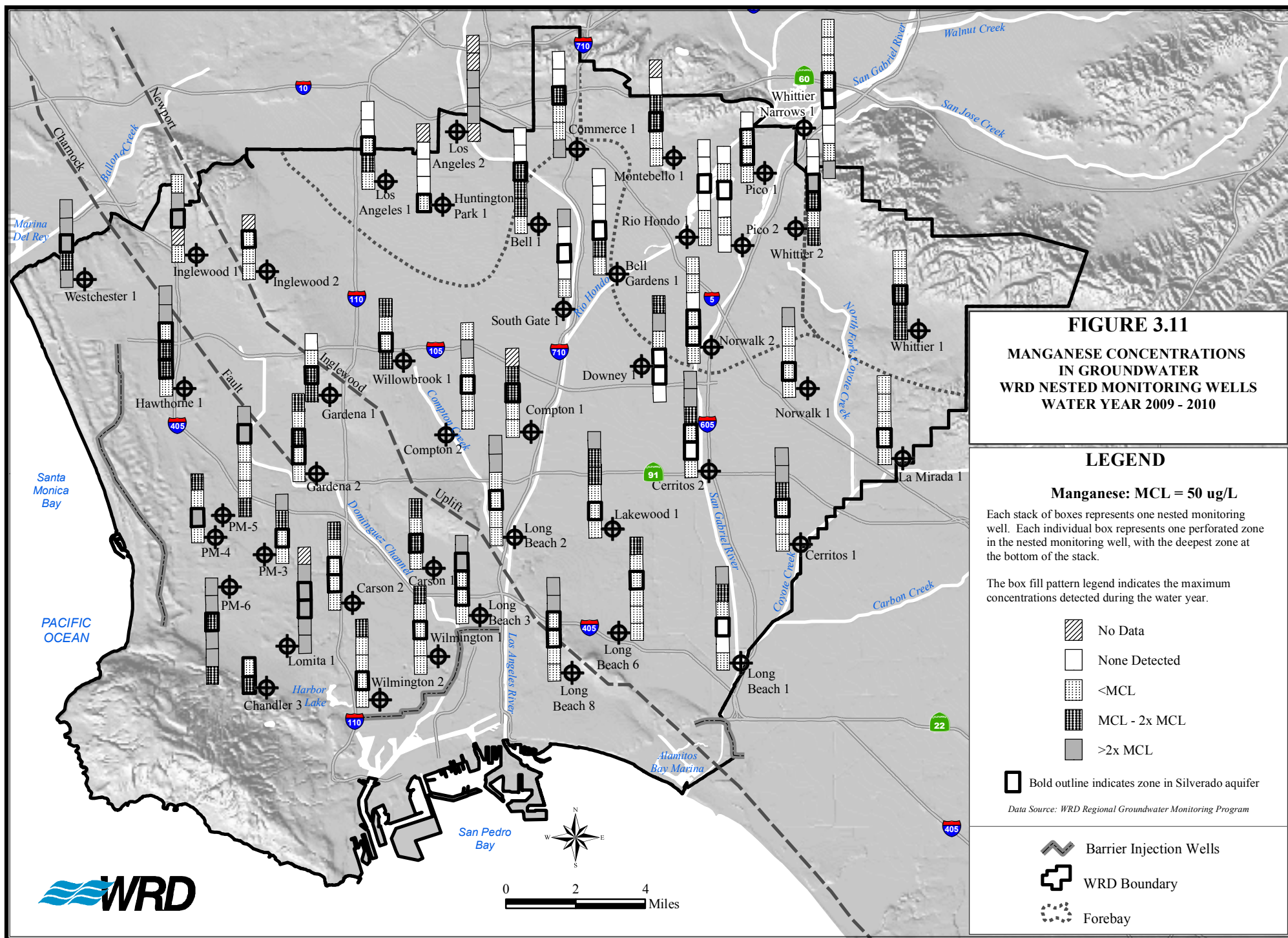
FIGURE 3.8
TDS CONCENTRATIONS IN WRD KEY NESTED
MONITORING WELL CARSON #1

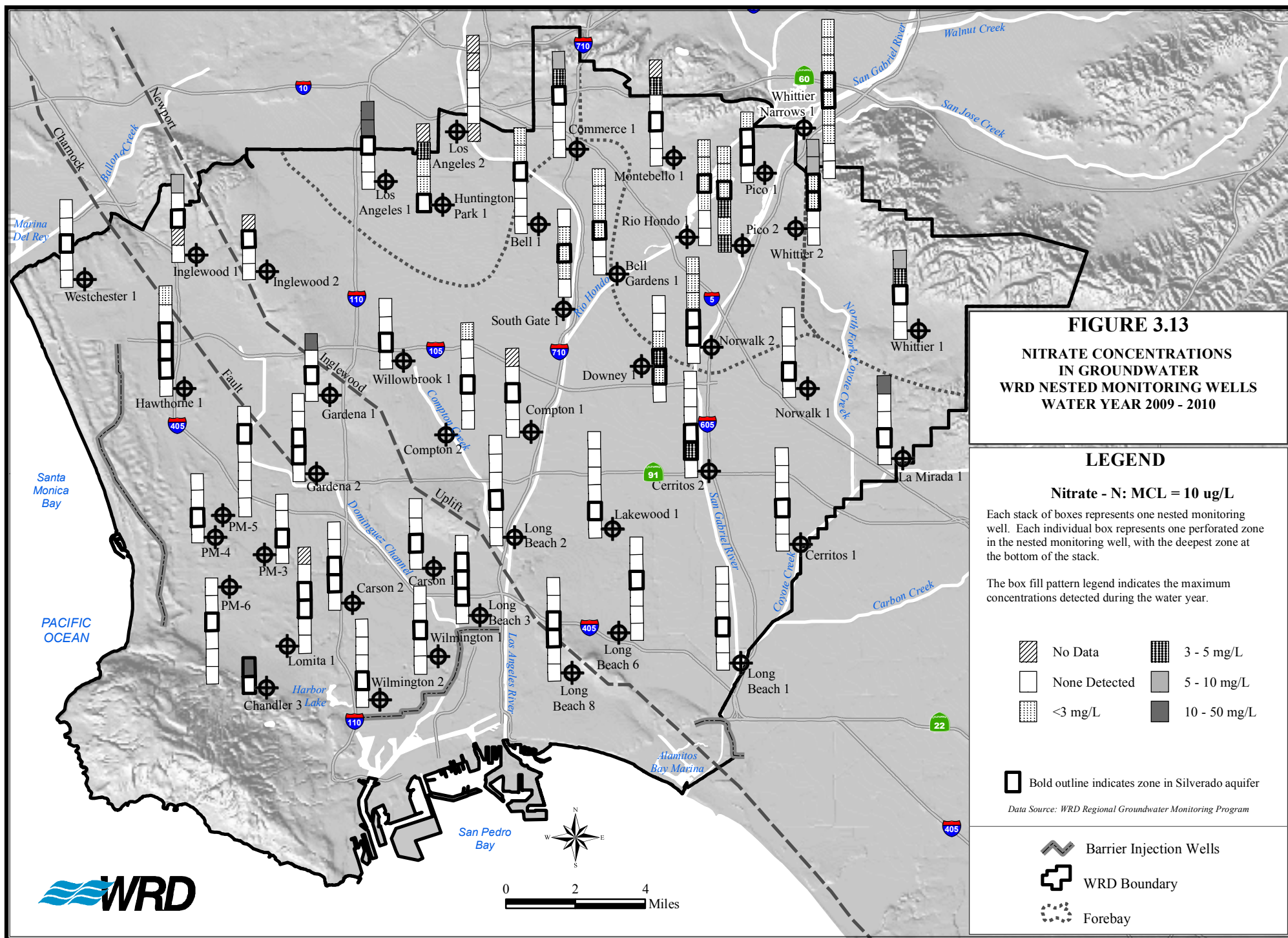


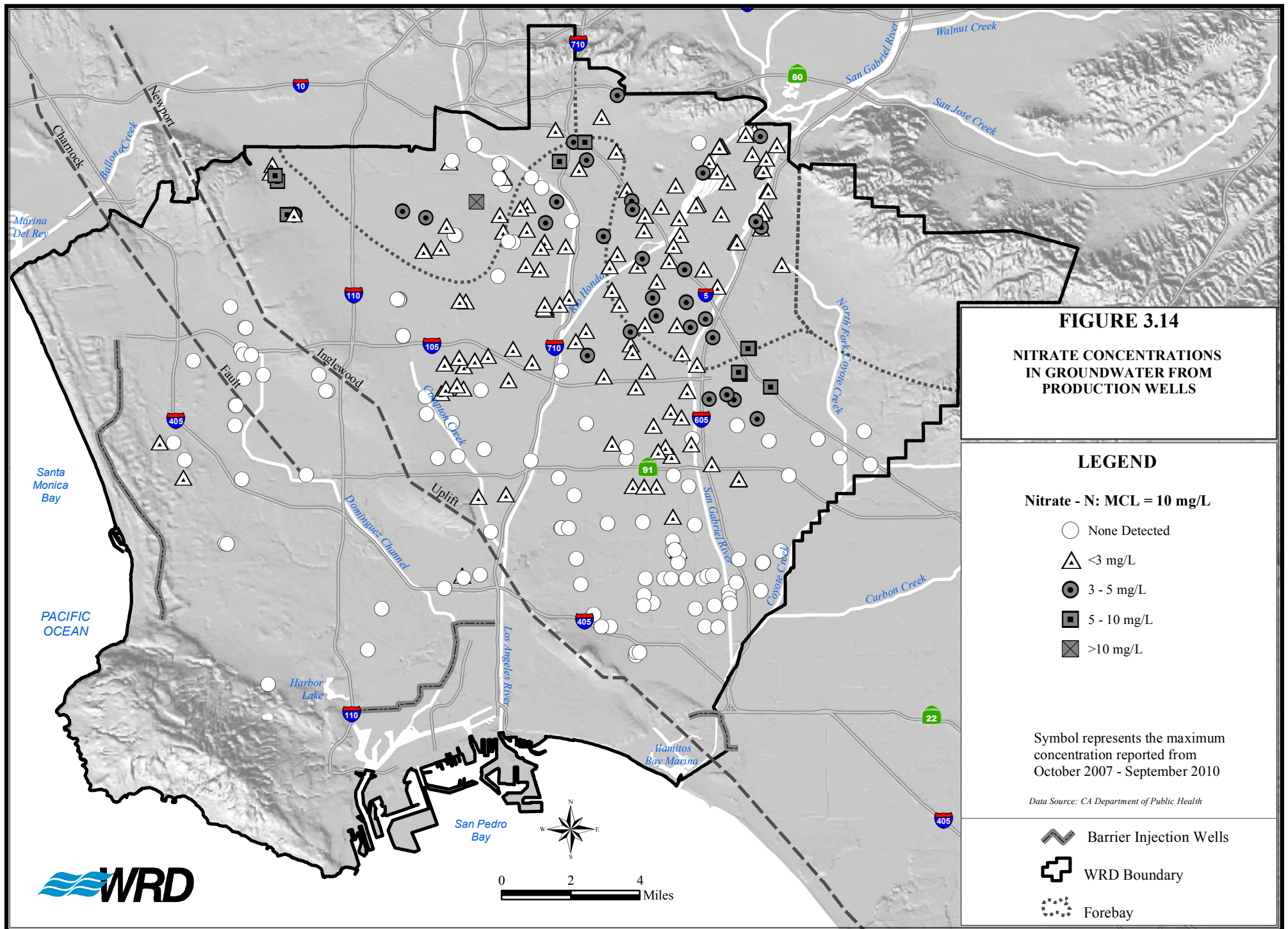


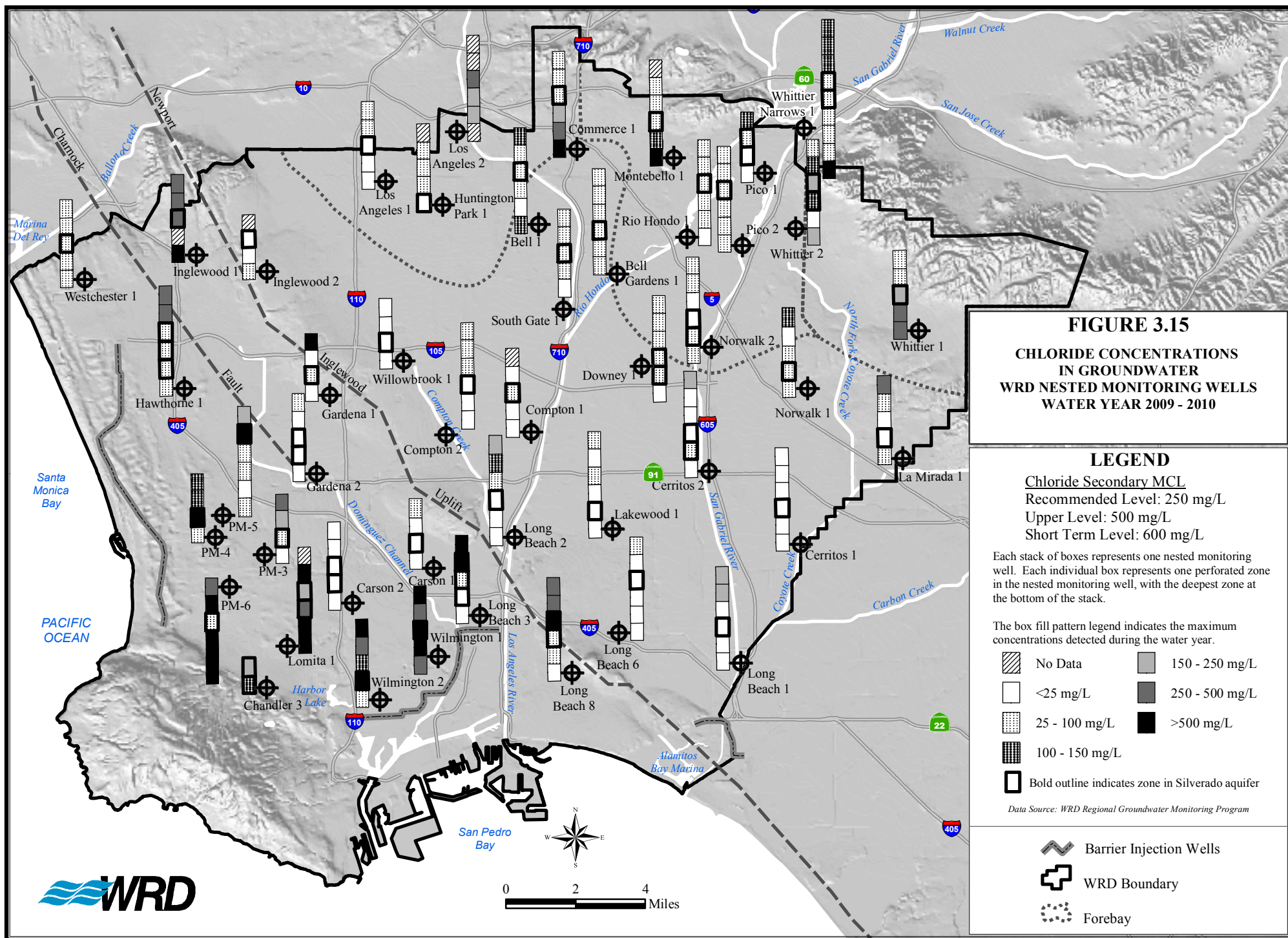


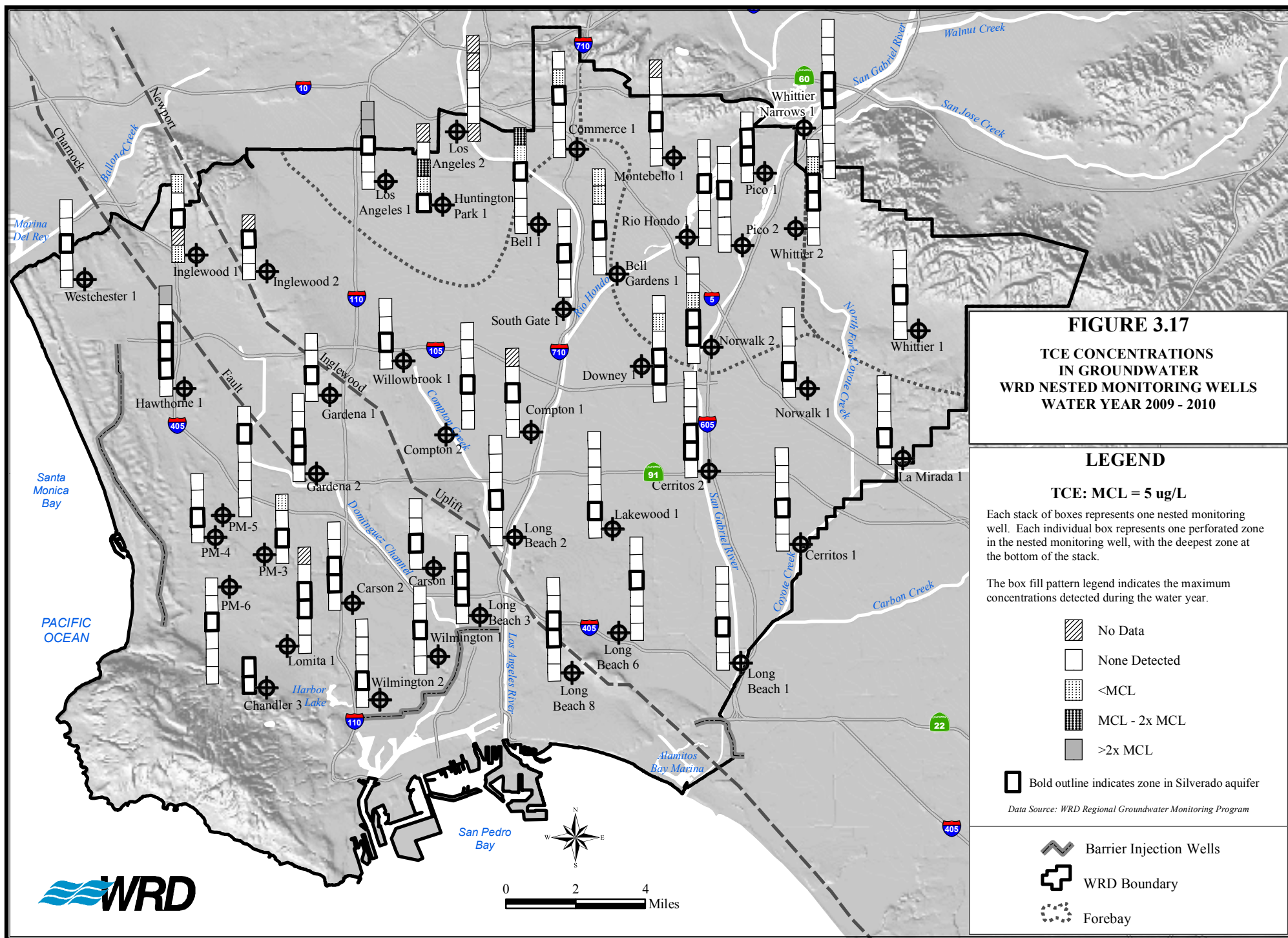


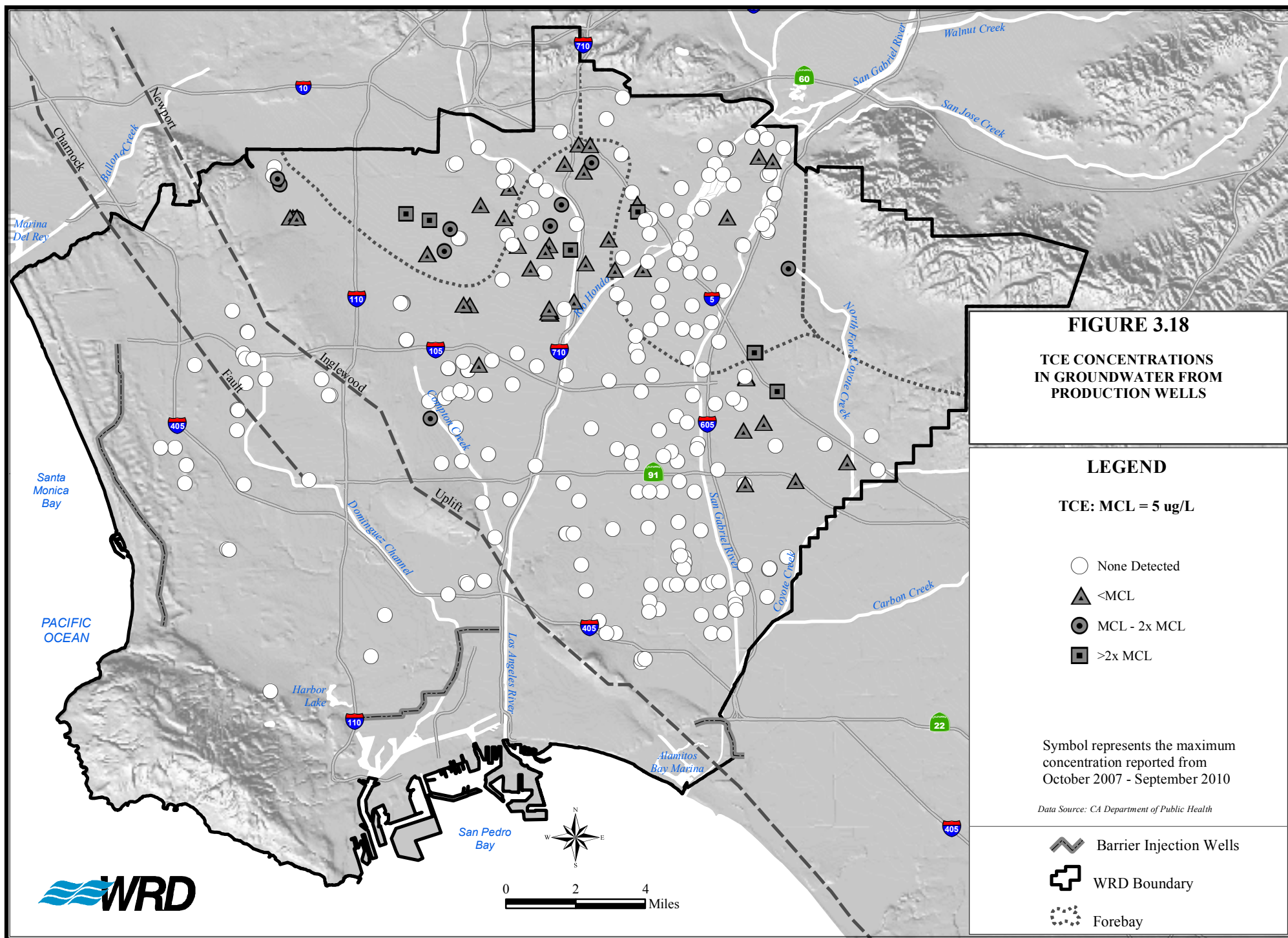


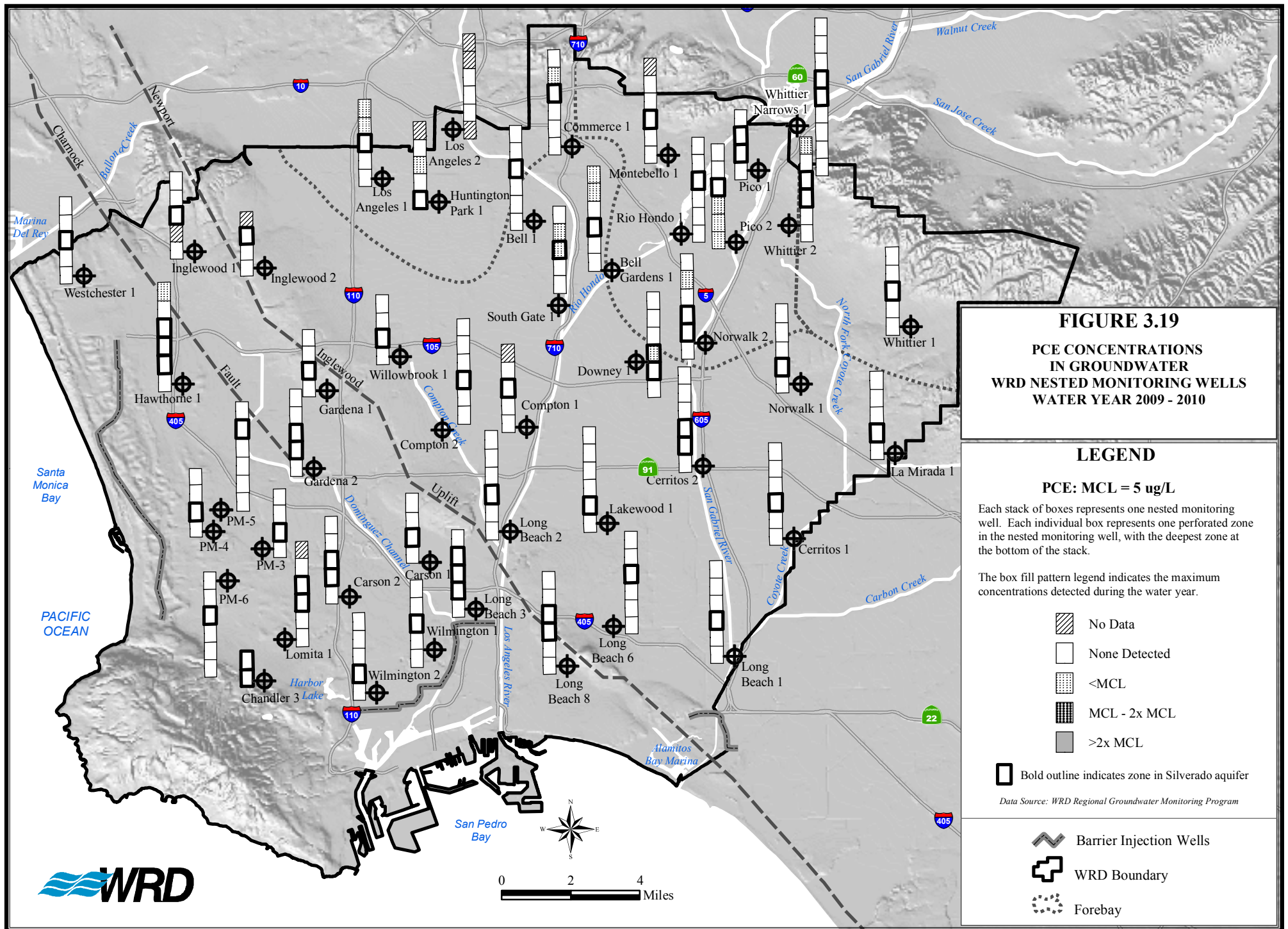


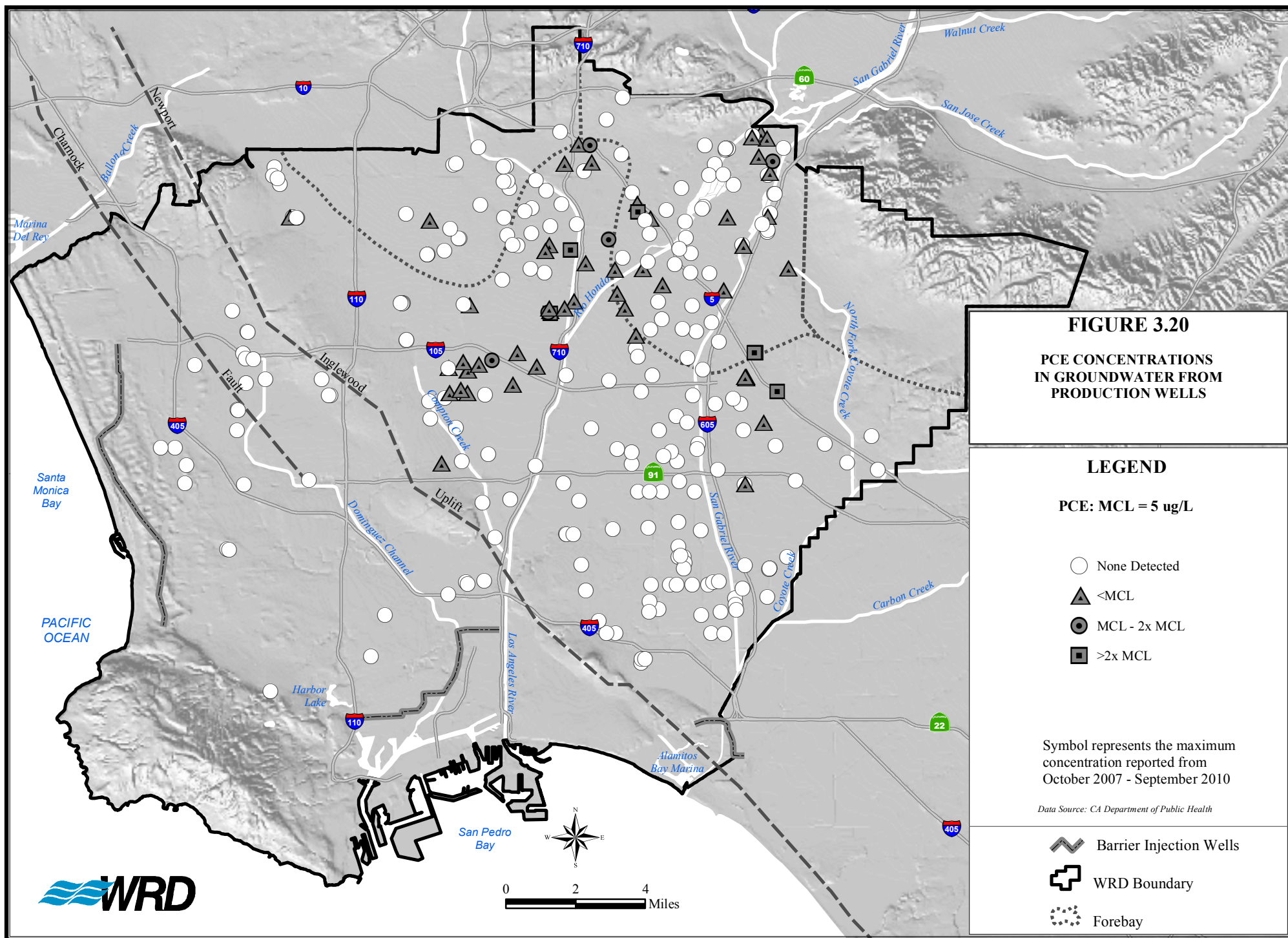


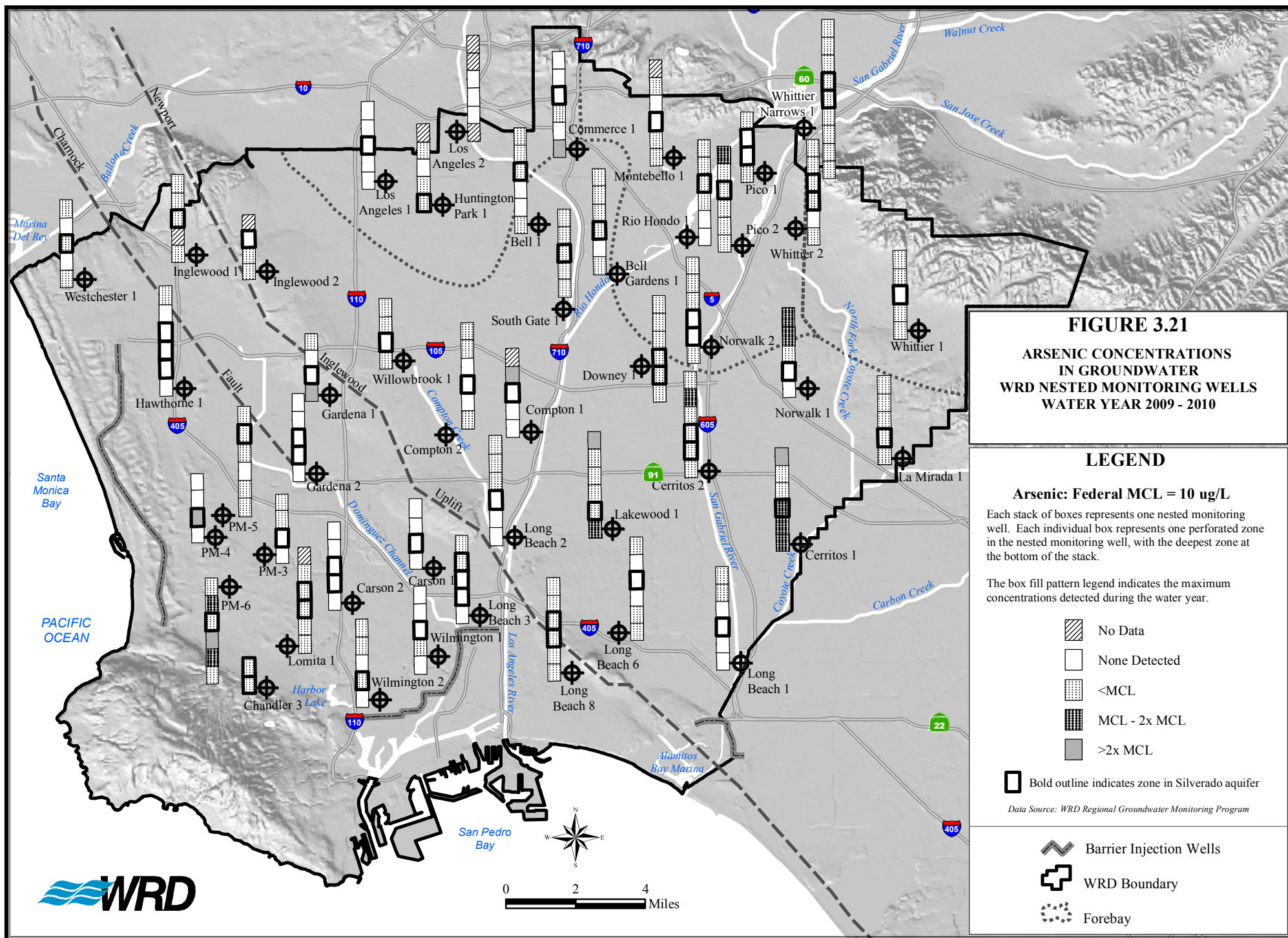


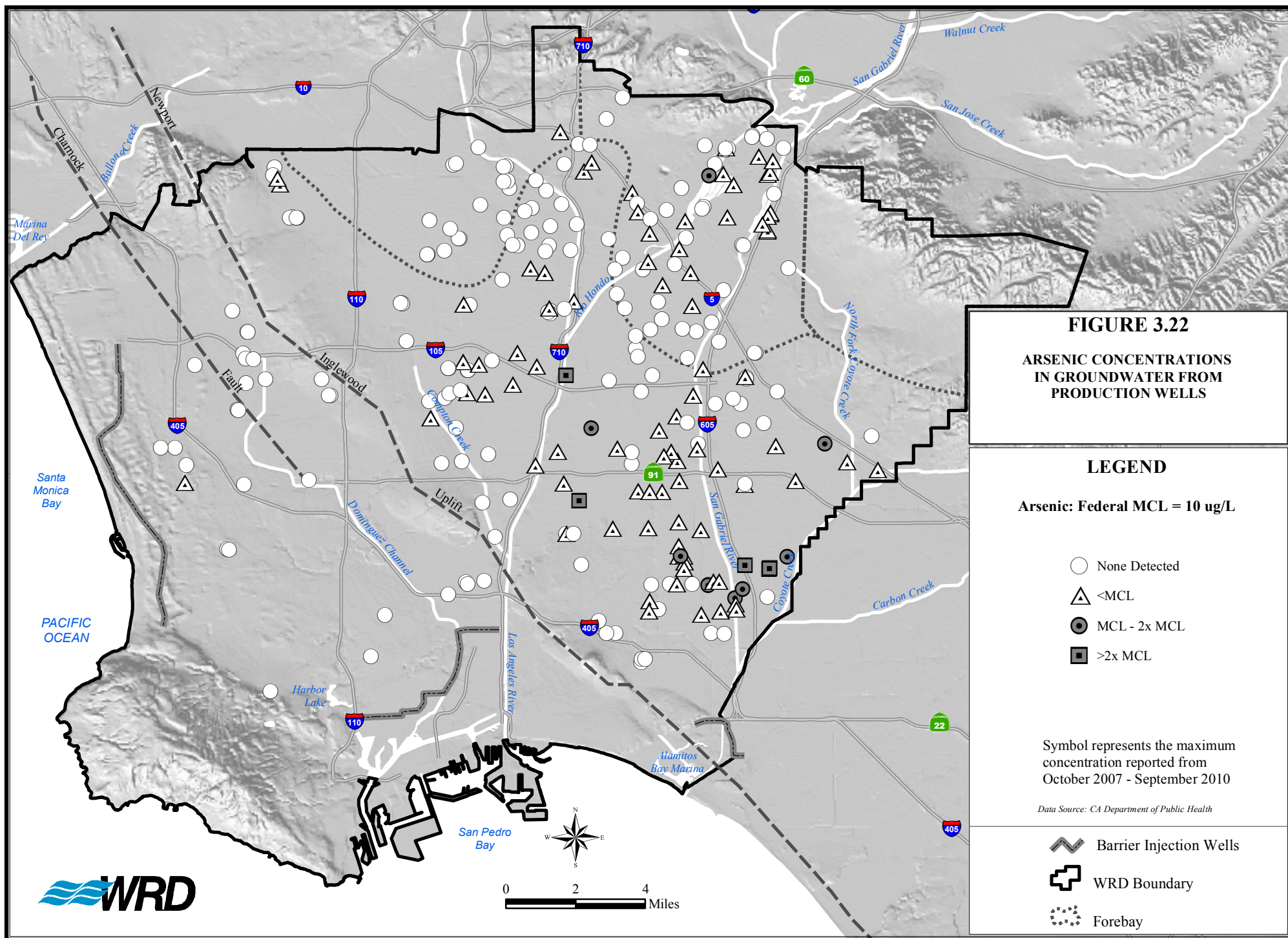


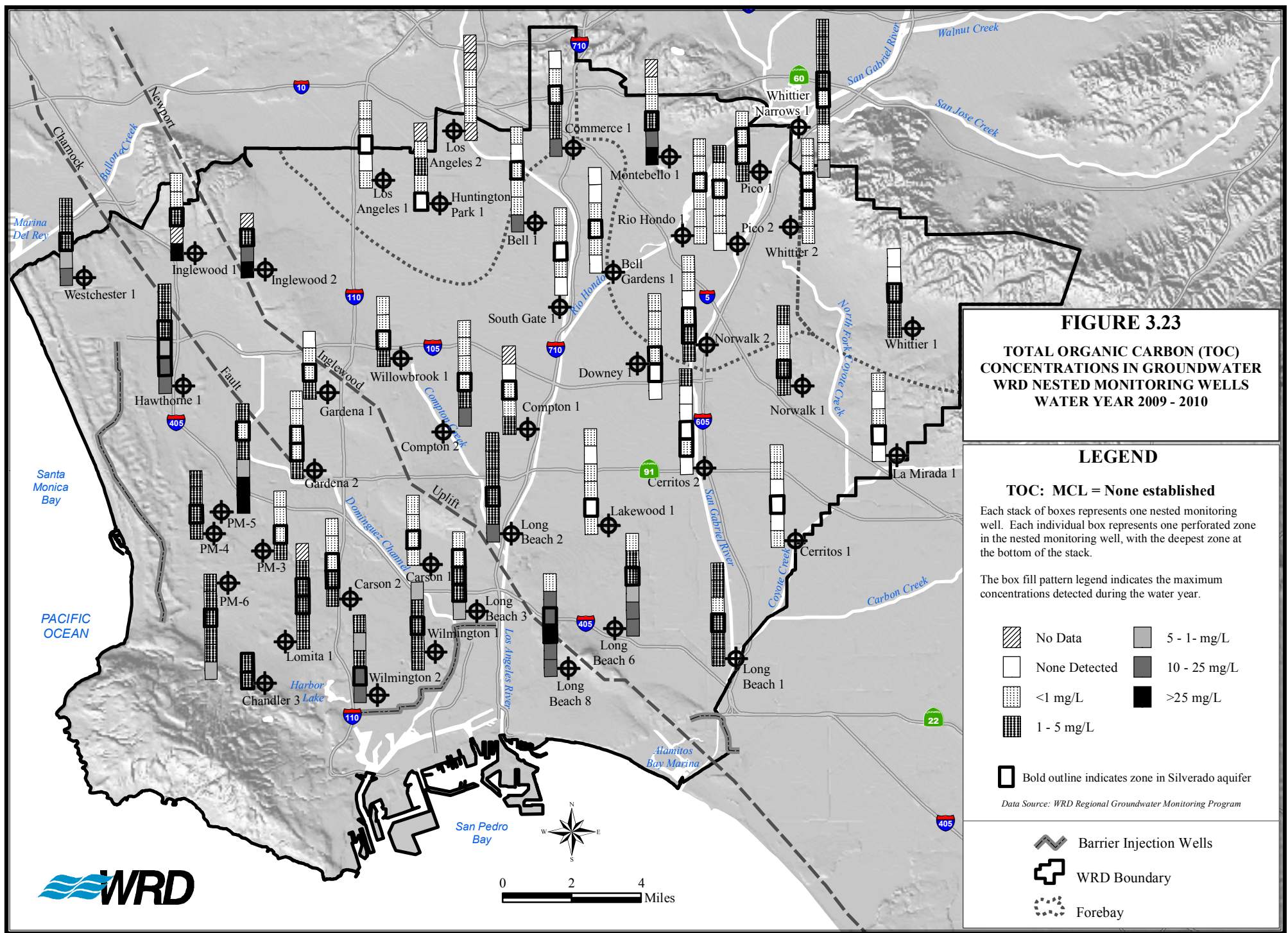


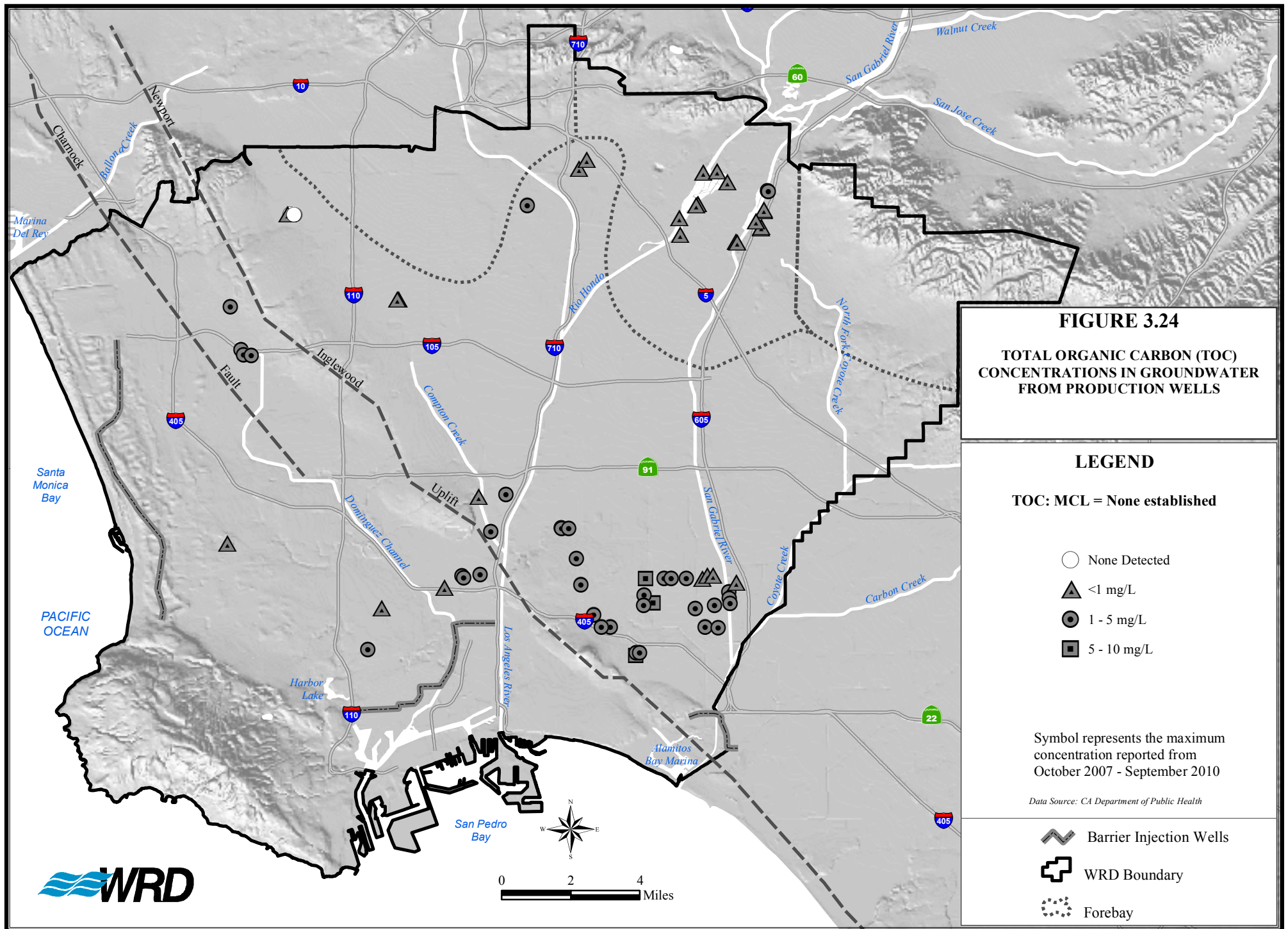


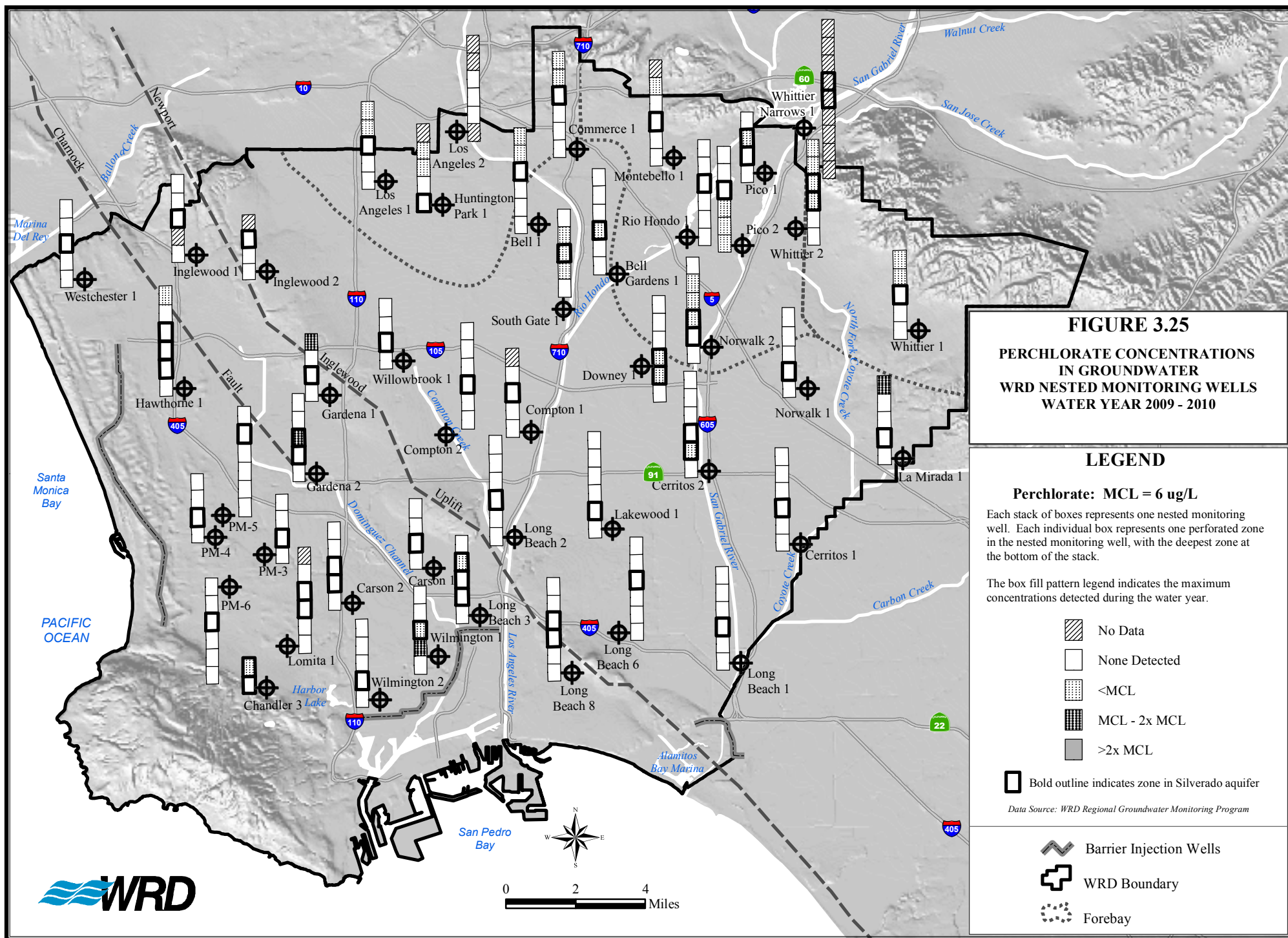


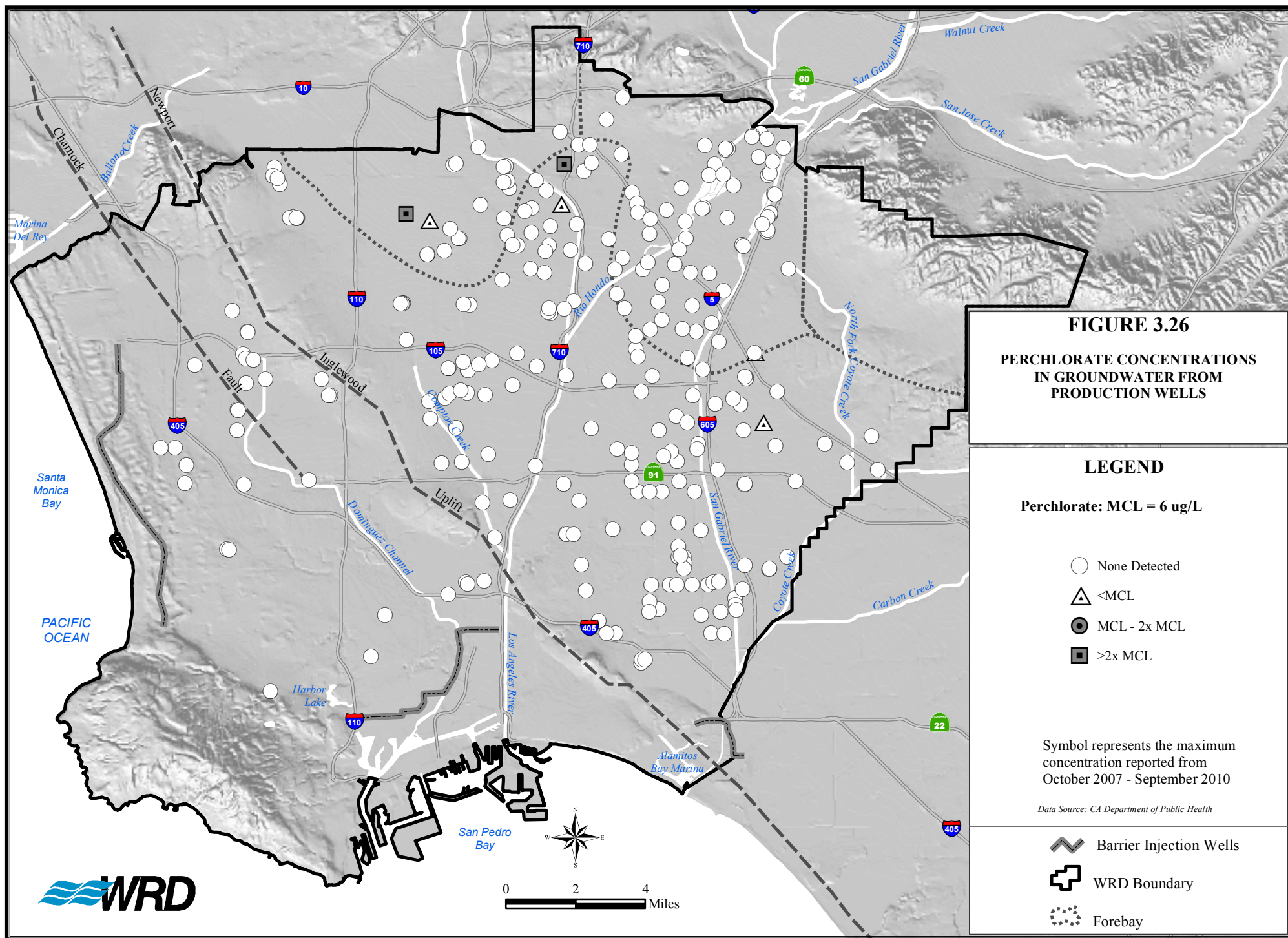












Mission:

“To provide, protect and preserve high-quality groundwater through innovative, cost-effective and environmentally sensitive basin management practices for the benefit of residents and businesses of the Central and West Coast Basins.”



Water Replenishment District
of Southern California
4040 Paramount Boulevard
Lakewood, CA 90712
Tel. (562) 921-5521
Fax (562) 921-6101
www.wrd.org